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EDITORIAL.

WISE SAWS AND MODERN INSTANCES.

Emerson says: "We may congratulate ourselves that the period of non-age, of follies, of blunders and of shame is past in solitude," and though we catch the thought and give thanks with him for our progress from the darkness and bigotry of the past, we feel that increase of knowledge has brought us increase of sorrow and that now we are standing face to face with our own selves and our lack of ability to see the truth and to faithfully interpret facts. A profound thought this, and one fraught with absorbing interest as we look upon ourselves as we are psychically made and realize to the full the influences our faulty opinions and judgments have on the progress of medicine as a science.

Such an introspection, and such an attempt to see with our own eyes the things that others see with theirs, and to bring into accord the result of our various visions, will beyond doubt, convince us that we are tied upon the wheel of error, and that much that we accept as fact with child-like simplicity of faith, is quite opposite to the truth, to another equally competent observer. Our mental make-up is such that no two of us can exactly agree on the truthful interpretation of things that our minds comprehend through our special senses.

In an article, "Nothing but the Truth," Hugo Muensterberg forcefully shows how subject to variation our opinions are, even on the simplest questions. He writes: "Last winter I made an experiment with the students of my regular psychology course in Harvard. Several hundred young men, mostly between twenty and twenty-three, took part. It was a test of a very trivial sort. I asked them simply, without any theoretical introduction, at the beginning of an ordinary lecture, to write down careful answers to a number of questions referring to that which they would see or hear. I urged them to do it as conscientiously and carefully as possible, and the hundreds of answers which I received showed clearly that every one had done his best. I shall confine my report to the first hundred papers taken up at random. At first I showed them a large sheet of white cardboard on which fifty little black squares were pasted in irregular order. I exposed it for five seconds, and asked them how many

black spots were on the sheet. The answers varied between twenty-five and two hundred. The answer, over one hundred, was more frequent than that of below fifty. Only three felt unable to give a definite reply. Then I showed a cardboard which contained only twenty such spots. This time the replies ran up to seventy and down to ten. We had here highly trained, careful observers, whose attention was concentrated on the material, and who had full time for quiet scrutiny. Yet in both cases there were some who believed that they saw seven or eight times more points than some others saw; and yet we should be disinclined to believe in the sincerity of two witnesses, of whom one felt sure that he saw two hundred persons in a hall in which the other found only twenty-five.

"My next question referred to the perception of time. I asked the students to give the number of seconds which passed between two loud clicks. I separated the two clicks at first by ten seconds, and in a further experiment by three seconds. When the distance was ten, the answers varied between three-fourths of a second and sixty seconds, a good number judging forty-five seconds as the right time. One, a Chinese, called it half a second, while all those whose judgments ranged from one second to sixty seconds were average Americans. When the objective time was three seconds, the answers varied between half a second and fifteen seconds. I emphasize that these large fluctuations showed themselves in spite of the fact that the students knew beforehand that they were to estimate the time interval. The variations would probably have been still greater if the question had been put to them after hearing the sound without previous information; and yet a district attorney hopes for a reliable reply when he inquires of a witness, perhaps of a cabman, how much time passed by between the shooting in the cab and a cry."

Sir Alfred Wills, in describing this tendency of the human mind, has said: "A constant source of difficulty in judicial investigations lies in what seems almost like an ineradicable tendency of human nature—an impulse to appear to know everything about occurrences of which the witness in reality knows but a part and often a small part. . . . It seems to require some moral courage to say 'I don't know.' It is not that the witnesses mean to deceive, but they have reasoned out what they never really observed, and confound the impressions so produced with those of actual observation. Again, Mr. Baron Alderson says: 'The mind was apt to take a pleasure in adapting circumstances to one another and even straining them a little, if need be, to force them to form parts of one connected whole, and the more ingenious the mind of the individual the more likely was it, in considering such matters, to over-reach and mislead itself, to supply some little link that is wanting, to take for granted some fact consistent with its previous theory and necessary to render them complete.'"

In what way this ever-present fault of our minds bears on the science

of medicine it is not difficult to understand. The progress of medicine is surely retarded at present by the desire for explanations. Certainly a wrong explanation is worse than none at all, and we well know the devious and thorny paths that medicine has trod, due to the false interpretations of facts. Nevertheless we are all afraid to say that "we do not know," and any one of us will agree in a long discarded opinion rather than confess that we know nothing more about it. We agree with Dr. Hale White in his urgent appeal for accuracy of thought, and we recognize with him the "mesopotamia-like soothing influences of words."

In surgery, as well as physic, the mind may go far afield and follow false gods, the Baals of these being statistics and the acceptance of facts upon authority. We know that our first duty is to discover what ails our patient, and our second duty is to provide the proper treatment. But also we all know the potent influences of the phrases, "you must do something," and "what is the matter with me?" and we know the feeling of uncertainty and secret shame that comes with making such a diagnosis as "irregular gout."

Let us try to develop men who will say out and out, "I do not know" and take pride therein.

Realizing to the full the errors our judgments are capable of, and the tricks provided for us by our memories and senses, we should protect our integrity and that of those who depend upon us, by candor and truthfulness. In so doing we shall make it easier for medicine to shed its coat of inexactitude and gain a scientific dignity.

A NEW INTERPRETATION OF OUR DRACONIAN SOCIAL LAWS.

In the early days of our civilization when our ancestors forsook their inartistic wigwams for pathetically artistic frame houses, the question of the social inequality between the front and rear entrances did not enter into what Mr. Henry James calls "the strange irregular rhythm of life." There were excellent reasons for all absence of irritating differentiation; life was monotonously regular and if the simple folk had one quality which outshone others, it was the possession of a stolidity that deadened their limited artistic sense to a just appreciation of the merits and social superiority of the ornate front-door, and the demerits, not to say degradation, of its less fortunate antagonist.

Quite different, indeed, to our ancestors of crepuscular intelligence, is the owner of an apartment building at Newark (N. J.), for he has de-

creed that physicians are not a whit better than grocers' delivery boys and servants' visitors, and that any physician frequenting the premises, in a professional sense, must shun the front entrance and use the lowly portal through which milkmen, butchers and bakers troop on their daily pilgrimages. One daring physician, who violated the rule and was turned back, is now suing the lordly landlord for five thousand dollars as a balm for his wounded feelings.

The circumstance not only illustrates the arbitrariness of our social laws but shows the utter insensibility of an American landlord to the mundane elevation of a prosperous member of the profession. We take it the physician was a man who commanded at least five dollars a visit; otherwise, would he have been bent upon entering an apartment building that had the distinction of two entrances, fashioned so that the stupidest person would know their respective uses? Granted that this was the case and that the physician conformed to the landlord's conception of our best social ideals by being properly and fashionably accoutered, our humble opinion is that an obtuseness and narrow-mindedness that refuses recognition of money and good clothes—tenets written in fat letters in the American Almanach de Gotha—should be punished by all the severities of our just and stringent laws.

Here, indeed, is a splendid opportunity for some ambitious wight to write a Complete History of American Sociology. The book, should so Gargantuan a performance ever be effected, ought to mention all the many strange and diverse factors that have entered into the web and woof of our social fabric; how simplicity of thought deserted us with the advent of a rare discrimination which, unlike what it has done in any other country, civilized or uncivilized, produced the most original social chart that history will ever record. There should be no slighting of the fact that we have placed the wholesale dry goods merchant leagues above the retailer; the butcher below the grocer and that we do not hesitate to crush the audacity of the upstart head of a shoe store who would dare to level his gaze at the superlatively exalted owner of a boot and shoe factory.

These are but a few of the bright passages which should ornament the book. We are sure of these because that great baby, the public, as Thackeray would say, has accepted them without a murmur. As regards the Newark physician, though his social status is still a mooted question, a favorable decision will not preclude the matter from appearing in a chapter by itself, just to illustrate to a crowd of zanies, how our original and unique social laws have made men happy, in a land unhampered by anything that smacks of absolutism.

A VOICE FROM THE ORIENT.

From our Seat of the Scornful we have dealt out to the benighted denizens of the Orient so much gratuitous advice about things in general, that at last a critic has arisen among them to wound us in our most vulnerable part—our pride in our occidental superiority as regards personal cleanliness. The article to which we would like to take exception but to which we must, in truth, subscribe our highest appreciation for verities fearlessly related, appeared in the *Madras Antiseptic*, for July, and heralds forth the avoidable social crimes consequent on the artificial life in our large cities. The unkindest and most veracious note is the charge that but for Anglo-Saxon influences, the Hindus today would be the same clean folk they were some years back when daily bathing was the best tenet of their Mohammedan creed. And mark you, this is good, sound sense and not “the loud clarion of the braying ass” as the flippant both here and in England would have us to believe.

No doubt for a foreigner to speak of a lack of personal cleanliness among a people so cleanly as we pretend to be, will strike the average American as the opposite of pointed truth, and as for dubbing it a social crime, our risibilities will be stimulated for many a day. For with us, social crime has had a special and peculiar significance which, for years, we have associated with the devastation following random pistol shots or the indiscriminate use of knives, and could not possibly be made applicable to so slight and insignificant a matter as the absence of the daily bath. Daily, we might say, we hear that certain choice spirits among us have returned from excursions into the slums, with more or less harrowing tales descriptive of the ravages of gaunt hunger, the absence of true spirituality and the impending signs of crime, but if any have ever mentioned the lack of cleanliness as the greatest of all social crimes, our readings certainly have been of a superficial order.

A very pretty idea obtains among us that because some thousands in a large city are advocates of the best principles of cleanliness, the whole community more or less follows in their footsteps. When any description of the rank condition of our tenements is given them they either disbelieve, founding their foolish opinion on their daily ablutions, or shudder to think that such gross ignorance can exist in what they are pleased to call so civilized a community. Were they to visit any of the tenements which disgrace our American cities, they would be purblind, were they not struck by the utter lack of facilities among the poor for combating filth. And here it would be well to mention the educative factor as a means of gradually bringing our lower classes around to a proper understanding of the use of the bath, as a preventive measure against the many visitations of those special diseases, which unfortunately fall to their lot. That little can be accomplished without driving the shaft home in the way we suggest was illustrated in an article in the June number

of the Canada Lancet, where Dr. Jacobson of Brooklyn, says: "In multitudes of tenements the only general ablution that ever takes place is practiced once on a newly born child and again on the corpse of any deceased member of the family. A prominent English ecclesiastic is reported to have stated publicly on a recent occasion that there was only one bath tub in a densely populated district of London to which he ministered, and that one tub was his own. One is reminded of the model tenements which were once upon a time constructed in New York City, and in which bath tubs were installed on the theory that the reason why the masses did not bathe was because they lacked facilities. Not long afterwards it was found that every tub was being used as a coal bin."

The vaunters of our civilization who see perfection on all sides are really very poor critics of the fruits of our aims and tendencies. The fundamental idea of an act for the betterment of mankind may be in the right direction, but the communal intelligence may be at so low an ebb that not only is the idea dwarfed but sometimes utterly annihilated. To explain what we mean, a consideration of the difficulty of introducing municipal bath houses in the thick of our population is an apt illustration of an almost moribund idea being slightly galvanized into a semblance of life by a few reformers, with results of so ungratifying a nature that it would be well to speak of them in a low whisper lest the Man in the Mysterious East should hear of them. As for our tenement houses with their ill-lighted halls, their lack of bathing facilities, their odors that reach to the street, if not to a disputed heaven, of these modern improvements tell it not in Gath nor whisper it in Ascalon.

If the Earl of Dorset was right when he said that "Deep conceits, like maggots, breed in carrion," we ought to abolish our "deep conceit" about our superiority lest another critic come to the front with harsher criticisms than are contained in the article in the Antiseptic, and many gentle reminders of the direful fact that our conceit but shows a rotting something instead of a lusty entity of intellect and enterprise.

PHANTOMS OF THE IMAGINATION.

We doubt if there is another problem affecting modern life that has been subjected to greater indignities, at the hands of little men made strong by blatancy, than has been the fate of what philosophers in the street are pleased to call, "the venereal peril." In the past year or so, a goodly array of writers for the American medical press have exploited the subject from Alpha to Omega, in the hope that their bald, unjointed chat would be the means of solving a problem with which the greatest sociologists have striven, with only partial success. That the tide is still on us is indicated forcibly from week to week, but never was there a better illustration that we are still wandering "through all the realms of Nonsense absolute," than the article in the *New York State Journal of Medicine* for July, which starts out with the burdensome title, "On

Idle Wives, Unmated Men and the Venereal Peril,"—palpably copied from the novel, "The Gods, Some Mortals and Lord Wickenham," by John Oliver Hobbes,—and winds up with kindly advice to the "spinsters of New England."

The problem is worthy of the most serious consideration for at present the inroads of certain diseases are annihilating the sturdiness of the human race. For ages the protection of human life has been uppermost in the minds of social philosophers, and if the results today do not warrant the world's applause, they are gratifying enough, as regards certain reforms, to make us hold our heads a little higher. But a certain deplorable phase of puritanism has kept our hands off this subject, and will continue to do so, so long as it is tabooed in a society whose watchword is cant. We are firmly convinced that something ought to be done soon; that State intervention might be effective if only to protect the offspring of diseased parents. Of course, this would call into play a certain amount of absolutism which would be contrary to all the sentiments firmly implanted in free-born Americans, but it would be powerful enough to change for the better, things which our present laxity allows to take their own course. Moreover, it would put a stop to the phantoms of the imagination which certain writers are deluging us with, in their gropings to find the ray which shall illuminate their present intellectual night.

Among the few who have written words that should impress themselves on the national conscience, is Sir John E. Gorst, whose book "The Children of the Nation," has recently been published in this country. Under Preventive Measures he says: "It is on behalf of the innocent victims of the disease, and especially of children whose lives may be blasted from birth through no fault of their own, that the intervention of public authority is demanded. If public morality demands that no special steps should be taken to protect the primary sufferers from this disease, it seems equally obvious from the same point of view that no special privileges and immunities should be accorded to it; it should be treated in the same manner and on the same principles as all other contagious diseases are treated, and the sufferers from it should be required to surrender so much of their individual liberty as is essential to public safety. A person affected is as much a source of public danger to other people and to innocent children as a person who is suffering from smallpox. Why should such a man or woman be exempted from the obligation to report his or her condition to the officer of health, and to submit to such treatment either in hospital or elsewhere as the interest of the public may require? To permit concealment of the danger from the public officers of health is a privilege not accorded to sufferers from scarlet fever or smallpox. There is nothing at all impracticable in requiring and enforcing such a notification. 'It is what they do in Russia,' says Sir Alfred Cooper. 'I was in St. Petersburg in 1875, and they have greatly

checked syphilis there. Directly there is a case it is reported, whether it is a prince or princess, or duke or duchess, or even one of the grand dukes. If one of the grand dukes gets syphilis it would have to be reported, and he would be surrounded by police regulations, and it would be quite impossible for him to pass it on to anybody."

As for the article with the prolix title, its insignificance is hardly worthy of mention and engages our attention only because it best illustrates the trend of thought in our journals. "Idle Wives" may be a menace to marital happiness, but surely one would be a bit narrow-minded to hold them up to public scorn for the crimes imputed to them by the writer. That the economic question deters men from marrying is an aged shaft that philosophers have launched at the public's head since Adam Smith wrote "An Inquiry into the Nature and Causes of the Wealth of Nations." Nevertheless, though the cost of living changes, one might say, with the seasons, and is about the most variable proposition which confronts mankind, we have not as yet heard that an increase in the number of marriages due to cheapness of commodities, has curtailed the number of venereal diseases. Now the author of the article would have us believe all this, especially his remark about "unmated men," and so possessed is he of the indisputable truthfulness of his belief that he says: "I should not blame the spinsters of New England if they should organize and *en masse* march upon Boston, whence the boys of their childhood have gone, with banners bearing the slogan, 'We demand our birth-right; we demand to be loved.' The spectacle of a number of young women engaging in this sort of warfare would do much to increase the world's humor, but we doubt if a successful campaign on the part of the virtuous besiegers, would eradicate the venereal diseases which the young men acquired during their stay in the puritanically wicked city of Boston.

LITERARY NOTES.

The hysteria of Saint Theresa, the appendicitis of Henrietta of England, the high-strung temperament of General Hoche, the suicide of Beaumarchais, the alimentary regimen of Napoleon at St. Helena, the victims of Louis XIV, are some of the medico-historic problems discussed by Dr. Cabanes in the "Indiscretions de l'histoire" (4th series) recently published at Paris by the Librairie Mondiale, 10, rue de l'Université.

This medico-literary author exercises in this new work the same care as to documentary evidence, the same historic and scientific research, the same impeccable style, as well as refinement and delicacy, which have done so much, in the preceding volumes, to prejudice readers in his favor. According to Dr. Cabanes, the virgin of Avila was not a vulgar hysteric.

Rather was she a neuropath, gifted with a high degree of intelligence and extraordinary will power. Affected with malarial poisoning she developed the malarial cachexia, and this soon led to a nervous breakdown. As regards Henrietta of England, did she succumb to the effects of corrosive sublimate poisoning, (this being the opinion of Legue), to an appendicitis, to a rupture following an ectopic pregnancy, as is claimed by Prof. Pozzi, or to a fulminant peritonitis subsequent to a perforation of an ulcer of the stomach? This last hypothesis is the one that Dr. Cabanes believes to have been the cause of her death, and he adds that the princess having been tubercular, the question of a connection between gastric ulcer and tuberculosis arises. Dr. Cabanes, particularly in this interesting chapter, gives us an idea of the numerous documents he had to consult to arrive at his conclusions. From time to time many people have advanced opinions as to the poisoning of Gen. Hoche. After a thorough examination of all the known and unknown documents bearing on the case, Dr. Cabanes concludes that his death was the result of phthisis pulmonalis. This is also the opinion of the well-known authority M. Debove, who was consulted by the author.

Dr. Mary Putnam Jacobi's *Stories and Sketches* will appear in the autumn under the imprint of G. P. Putnam's Sons. At the time of their first publication, these papers received favorable attention from the critics as well for form of expression and literary quality as for originality of conception and imaginative power. The present volume has been brought into print with the belief that it constitutes a real contribution to American literature, and also as a memorial to the life of an earnest worker, the activity of whose intellect could not be entirely restricted within the channels of her chosen profession.

"The Mother's Nursery Guide. For the Care of the Baby in Health and in Sickness," by Setrak G. Eghian, A.B., M.D., has been published by G. P. Putnam's Sons. In this little work the care of the baby in health and in sickness is treated briefly and comprehensively. In the first part of the book, ample space is devoted to the natural and artificial feeding of infants; and in the second part the most important and common diseases in infancy and early childhood are described.

The author does not wish to imply that this work makes a doctor, in every case, unnecessary; but it is his belief that it will do much to enable the mother to co-operate intelligently with the physician, and to care better for the child in the absence of professional attention than would otherwise be possible.

Dr. Eghian, a specialist in diseases of children, is a graduate of the University of Berlin.

A new edition has just been published (The Macmillan Co.) of Dr. A. Ross Diefendorf's "Clinical Psychiatry." This book, although based on the Sixth German edition of Kraepelin's "Lehrbuch der Psychiatrie," is much more than a mere translation. Dr. Diefendorf has made extensive additions to the original, the chapters on classification of diseases and methods of examining patients being entirely new. Certain other chapters have been amplified, and special attention has been given to subjects of interest to American students and physicians. Dr. Diefendorf is Lecturer on Psychiatry in Yale University, and a well-known expert on insanity.

Longmans, Green & Co., of New York., have in their list of recent publications new and thoroughly revised editions of the following: "The Essentials of Clinical Physiology," by W. D. Halliburton, M.D., F.R.S., Professor of Physiology in King's College, London; "The Essentials of Histology," by E. A. Schaefer, L.L.D., F.R.S., Professor of Physiology in the University of Edinburgh, and "The Diseases of Children," by Henry Ashby, M.D., F.R.C.P., Physician to the Manchester Children's Infirmary.

"The Common Bacterial Infections of the Digestive Tract," by C. A. Herter, has been published by the Macmillan Company. In this work Dr. Herter emphasizes the importance of the work of health boards in the prevention of disease. He dwells at length on the necessity for improved milk sanitation and discusses those cases of chronic intoxication due to the presence of bacteria.

ORIGINAL ARTICLES.

ABDOMINAL SURGERY WITHOUT DETACHED PADS OR SPONGES.

A PRACTICAL METHOD OF USING GAUZE STRIPS SO AS TO ELIMINATE THE POSSIBILITY OF ANY GAUZE BEING LEFT IN THE ABDOMEN.

By H. S. CROSSEN, M. D., St. Louis, Mo.

The absolute certainty of the removal of all articles carried into the peritoneal cavity is a subject that has received much painstaking consideration from surgeons. And it well deserves careful consideration, for the reported cases in which a sponge or forceps has been left in the abdomen are numerous. It is surprising how easily and quickly the intestinal coils will enfold an object and carry it out of sight and touch.

The usual directions to prevent leaving anything in the peritoneal cavity, are (1) to use only a certain number of sponges of various sizes and a certain number of forceps and other instruments; (2) to clamp a corner of each sponge left in the cavity to the sterile sheet about the wound; and (3) to have the sponges counted by an assistant physician or by the head nurse immediately before the abdomen is closed, to see that none are missing. Theoretically this is perfect. But practically it is far from perfect, as is amply shown by the long list of cases, under experienced operators, in which sponges, forceps and sundry other articles have been removed from the abdomen during convalescence or at the post-mortem table. This is due of course, to a slip—to some break in the chain of preventive measures. It may be said that it is no fault of the preventive technique but simply an inexcusable neglect of some part of it. Such a view of the matter may seem very plausible to the inexperienced, but its erroneousness is painfully evident to those who have had personal experience in desperate abdominal cases, where the patient is wavering between life and death and a few moments' delay may turn the balance. As the wound is being hurriedly closed, that the patient may be gotten into the warm bed and the various restorative measures applied, it is found in the counting that a sponge or forceps is missing. Where is it? Is it in the abdomen or is it in some one of the various rolls of things about the table or in the waste container or on the floor. To search the peritoneal cavity again or to delay the closing of the abdomen until everything around the table is thoroughly searched, may cause the death of the patient—while to close the abdomen with the possibility that a pad or sponge is in there is not less dangerous. This makes a most uncomfortable situation and one all too frequent.

Following the usual technique, I operated for years without accident.

But about two years ago I left a gauze pad in the abdomen. It was a pus case in which extensive drainage was necessary, and fortunately the pad was discovered and extracted through the drainage wound. The patient recovered without serious result from the accident, but the lesson was not lost. I determined to find some method that would make such an accident impossible, a method that would be entirely under the control of the operator and first assistant (a greater division of responsibility increases the danger) and one that would occasion no delay in the closing steps of the operation.

To prevent leaving any foreign body in the abdominal cavity it is necessary to take into consideration everything used in the wound or about it, and to make provision not only for the smooth easy cases but for the trying cases that require quick work and also for the various accidents and unusual conditions that may be met with. It is necessary also to make provision for emergency work in the country as well as for work in the hospital with its staff of trained nurses, and it is well to adopt for routine work a technique which is applicable in emergency work under unfavorable conditions, for any considerable change from one's usual and familiar technique is especially undesirable in these emergency cases with poor surroundings and limited help.

There are three things to be considered—the instruments, the large pads for holding back the intestines, and the small pads and gauze pieces for sponging. I decided to use long instruments exclusively, as explained later. For packing back the intestines, I adopted the large gauze roll which had already been used with satisfaction by a number of operators and which is now used very generally. The small pads and sponges gave the most anxiety. I tried several methods and the one finally adopted was the use of long, narrow strips of gauze, each strip packed in a small cloth bag from which it was directly used, as described later. I have been using this method now for more than a year and it has proven entirely satisfactory. The object of this brief paper is to bring to the attention of surgeons generally this systematic use of long, narrow gauze-strips in place of all small pads and sponges. I have experienced much satisfaction and relief from anxiety through the use of the method as detailed below and I believe others will do the same.

In the technique I employ, the following are the points relative to the subject under consideration:

Instruments. All instruments are long—so long that a portion of the instrument is practically always out of the abdominal cavity. Again, if by accident the instrument should slip entirely into the cavity, its length is such that it would almost certainly be felt when the hand is carried into the cavity for the final palpation before closing the incision. All the artery-forceps, dissecting-forceps, tenaculum-forceps, pedicle-needles, scissors and other instruments for internal work are between seven and eight inches long, the shortest being the needle-holder ($7\frac{1}{2}$ inches). The

shortest instruments used anywhere about the wound are the scalpel ($6\frac{1}{2}$ inches) and the heavy abdominal-incision scissors ($6\frac{1}{2}$ inches), both of which are laid aside as soon as the peritoneal cavity is opened.

The needles and Murphy buttons are not brought near the wound except when held in a forceps or with a suture attached. No Michel clamps (for holding rubber-tissue or gauze along the wound margin) or other small unattached objects are allowed near the wound as long as the peritoneal cavity is open.

Large pads. In place of the several separate large gauze pads for packing the intestines out of the way, I adopted the large roll of gauze used by many operators, and have been much pleased with it.

Small pads and sponges. The matter of small pads and sponges was not so easily disposed of. I tried and discarded various plans of keeping track of them. One expedient that I used for a time, and with satisfaction in regard to safety, was the attachment of a heavy iron ring by a short piece of tape to each pad—a suggestion obtained from the work of Dr. N. B. Carson. The ring and tape were folded in the pad before sterilization and at the operation, as the pad was picked up by one corner, the ring dropped out to the length of the tape and remained outside the operative field. This method is safe but it is very troublesome, not only in the preparation of the large number of rings and tapes and sponges but also in their use during operation, for when the assistants are not perfectly familiar with the method the tapes are likely to get tangled and thus occasion delay. This unfits the method for emergency work, where the surgeon must often operate with unfamiliar help.

Not encountering any entirely satisfactory plan I devised the method here detailed of using long gauze-strips, each packed in a small cloth bag in such a way that it can be pulled out a little at a time as needed. I have used the strips systematically in place of all small pads and sponges. As far as I know the method is original, no description of such use having come to my notice. For several years, gauze-strips of various widths and lengths (including the five-yard and ten-yard lengths) have been in general use in abdominal surgery for packing the intestines out of the field and for pelvic tamponade to check bleeding. But that is very different from the method here explained of using the strips systematically for the elimination of all pads and sponges. It is the packing of each long strip into a bag that makes this use of strip-gauze practical and convenient. The small cloth bag confines the long strip in a small space so it is not in the way, and at the same time protects it from contamination.

Each strip consists of a piece of gauze ten yards long and half a yard wide. This is folded lengthwise so as to make six thicknesses. The folded strip is approximately three inches wide and ten yards long, with the raw edges turned in and the ends tacked with thread to keep it from unfolding. Each bag is five inches wide and ten inches deep, as shown in Fig. 1, and is preferably made of extra heavy material and is sewed in

such a way that there is no chance for a raveling to be pulled out with the gauze.

Beginning with one end, the gauze strip is packed firmly, a little at a time, into the bag (Fig. 2). When packed in as indicated, it comes out readily a little at a time as pulled upon (Fig. 5). When all the strip has been packed in, the top of the bag is closed by folding over and a good sized safety pin is attached to the bottom of the bag (Fig. 3). Four of these filled bags, constituting one set, are wrapped together in a cloth, and are then ready for sterilization.

Beside the operating-table they are placed in a dry basin (Fig. 4), close to the basin containing the gauze roll in normal saline solution.

At the operation the lower end of the bag is pinned to the sterile sheet, a sufficient distance away to bring the mouth of the bag conveniently near the wound but not in the way (Fig. 5). The gauze strip is used as a sponge by catching a small part of it with the fingers or with forceps and pulling it out as indicated in Fig. 5. After use, this part is dropped away from the wound and another small part is drawn out and used. The used part is *not* cut off, but simply dropped outside the operative field and, as more and more of the strip is used, this soiled part falls off the table and out of the way (Fig. 6). Thus the greater part of the strip is always outside the abdominal cavity. No detached pieces of gauze are used in the cavity and hence none can be left there.

Usually two strips, one placed on each side at the beginning of the operation, are used in the course of an ordinary abdominal section. In cases where there is but little sponging, only one strip is needed. In very extensive operations where an extra amount of sponging is required, three or four strips may be needed. In no case did I find it necessary to use more gauze than that contained in one set, though I always have an extra set sterilized and ready for use. I tried different lengths and widths of strips, and prefer the size here given.

I thought of using simply one very long strip (long enough to supply all needed for one operation) packed in one large flat bag. But it is more convenient to have a bag on each side, so that either the operator or assistant may sponge at once as needed. Again, in some operations only one ten-yard strip is needed for sponging, in others two and in others three or four. As now arranged, but little more gauze is contaminated than is actually used. Furthermore, in pus cases the sheet and bag beside the wound may become contaminated with infected fluid. In such a case after the infected structure is removed, the soiled sheet and bag are covered with sterile towels and a fresh bag is pinned in place. If the soiled bag contained all the gauze strips for the operation there would be much unnecessary waste of gauze. Consequently I prefer the size of strips above mentioned.

For sponging, I use these strips exclusively from the time the skin is incised until the peritoneal cavity is closed. At first I anticipated considerable tangling of the gauze strips about the forceps in the wound, but

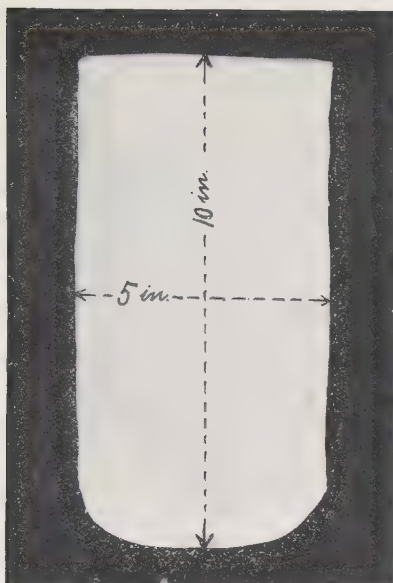


FIG. 1.

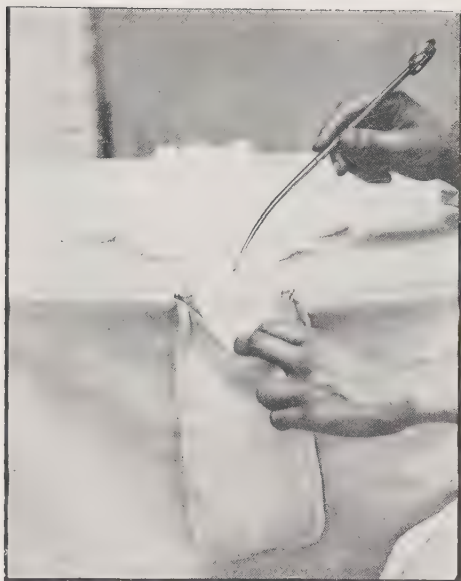


FIG. 2.



FIG. 3.

FIG. 1.—The Cloth Bag, Empty. This bag is five inches wide and ten inches deep. It is preferably made of extra heavy muslin or of duck, and the seams must be so placed that there is no chance for any raveling to be pulled out with the gauze.

FIG. 2.—Packing the Gauze Strip into the Bag. The end of the strip is caught with a forceps and carried to the bottom of the bag, and then successive portions are rapidly packed in with the forceps. When packed in thus, the gauze strip may be pulled out a little at a time as needed.

FIG. 3.—The Cloth Bag, Filled and Ready for Sterilization. The safety-pin is for pinning the bottom of the bag to the sterile sheet. Four of these filled bags are prepared for each abdominal-section set.

FIG. 4.—“Pads and Sponges for Abdominal Section.” The simplicity of the method is here indicated. The two basins (one holding the large roll of gauze in hot saline solution and the other holding the four gauze strips, each strip in its bag) contain all the “pads and sponges” needed for an abdominal section.

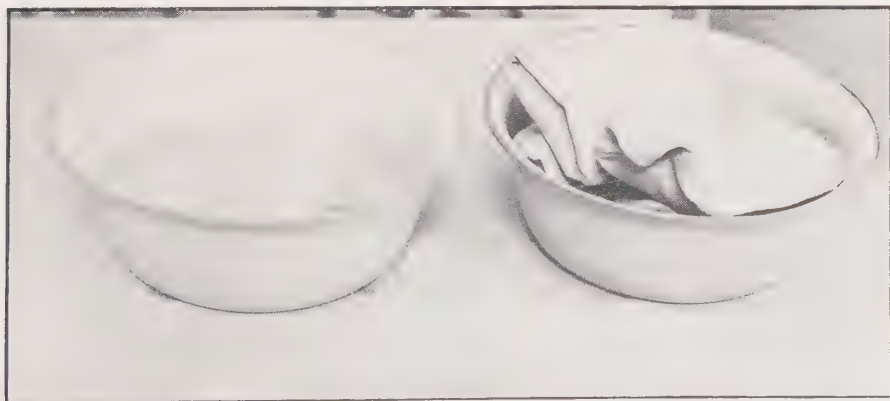


FIG. 4.



FIG. 5.



FIG. 6.

FIG. 5.—Method of Using the Gauze Strips. Just before the incision is made, a filled bag is fastened to each side of the abdomen, by pinning the bottom of each bag to the sterile sheet. The mouth of the bag lies conveniently near the wound, but not in the way. The end of the gauze strip is caught with the fingers or forceps and pulled out as needed for sponging, as here indicated.

FIG. 6.—Method of Using the Gauze Strips. As fresh portions of the strip are drawn out for use, the soiled portions are *not* cut off, but simply dropped down beside the bag and off the table, as here shown. The greater part of the strip is always outside the abdomen.



found that this could be easily avoided by always dropping the soiled portions of the strip *outside the field close to the bag*, as indicated in Fig. 6. This prevents the accumulation of loose folds about the wound, with which the instruments may become entangled.

Having used this method now for more than a year in various kinds of abdominal cases and under different environments, I feel justified in recommending it as safe, practical and convenient. Combined with the use of the large roll of gauze for packing the intestines away, it simplifies the matter of pads and sponges for abdominal section and eliminates entirely the chance of leaving a piece of gauze in the abdomen.

The directions to the nurse for preparing these are simple:

Pads and sponges for abdominal section.

1 roll of gauze—5 yds. long, 9 in. wide—4 thicknesses.

4 strips of gauze—10 yds. long, 3 in. wide—6 thicknesses.

Have another set (one roll and four strips) in reserve.

For the rolls, the full yard-width of gauze is used—when folded to form four thicknesses it is 9 in. wide. For the strips, the yard-width of gauze is divided into two strips, and each of these, when folded to six thicknesses, is about 3 in. wide.

Turn in all raw edges so that no raveling can be left in the abdominal cavity.

Roll each roll firmly and wrap it in a separate cloth.

Pack each strip into a separate small cloth bag (5 in. wide and 10 in. deep) and attach a large safety pin to the closed end of the bag. Pack in the strip firmly in such a way that it will come out easily a little at a time as needed. Wrap together in a cloth each set of four strips (each strip in its bag). Sterilize in the usual way.

At the time of the operation place two sterile basins within reach of the operator. One basin is to be partly filled with hot normal saline solution and is for the roll of gauze, while the other basin is to hold the four bags containing the gauze strips which are used dry.

That is all the paraphernalia necessary, and the "pads and sponges" are all within instant reach of the operator. The advantages of this will be particularly appreciated by those who have been obliged to handle serious and troublesome intra-abdominal conditions without trained assistants.

The gauze strips may be used also for temporary packing to check hemorrhage or for any other purpose for which strip-gauze may be required in the course of the operation.

SAUNDERS' DISEASE.
ALIMENTARY INTOXICATION (FINKELSTEIN.)

BY JOHN ZAHORSKY, M. D., St. Louis, Mo.

No subject has a greater interest to the practitioner than that of the digestive and nutritive disorders of infants. It is simply exasperating to have an infant, fed on food which apparently agrees with it, suddenly become seriously sick with some digestive disturbance. Since the theories of the bacteriologist have become so popular, for many years it has been the custom to ascribe the acute indigestions to bacterial action, that is their toxin, or some decomposition product of the food. That many acute digestive disorders are inaugurated by bacterial activity can admit of little argument, and under the names of exogenic and endogenic infections may be classified two distinct varieties of the disease; one in which bacteria form poisons in the food outside of the body, the other in which the bacteria produce a poison in the intestinal canal.

These particular poisons, however, have never been proven to exist except in a few instances. The colon bacillus, for example, possesses an endotoxin of considerable virulence, but its exact relation to gastroenteric diseases has never been worked out. There are virulent types of this bacillus which probably can produce an infection, but whether its growth in reasonable numbers in the milk may cause a poison in the decomposition products is still unproven, as far as I am aware. The ordinary toxins are harmless when given by the mouth (snake venom, tetanotoxin).

That true infections by the streptococcus, pyocyanus, proteus or dysentery bacillus may occur does not prove that all the acute disturbances are invariably caused by bacterial action, and extensive experience with sterilized milk and various sterilized foods only emphasize the difficulty encountered in attempting to regard all the severe acute diseases as infectious. May there not be nutritive disorders which depend on the improper composition of the food? Clinicians will promptly answer this in the affirmative. But when we ask whether certain foods of improper composition may induce a general intoxication from vicious metabolism, which is expressed in symptomatic phenomena resembling a bacterial infection, they are disposed to doubt the possibility. Yet this very standpoint has recently been taken by some prominent European pediatricists. But before going into recent researches on this subject I must relate some observations of an American pediatricist.

About twelve years ago Dr. E. W. Saunders, of St. Louis, in a number of cases, observed a singular group of symptoms which occurred in some infants fed on a proprietary food (Nestle's).^{*} These babies had all been doing well, gaining in weight and to all appearances were perfectly

^{*} The composition of Nestle's Food has since been changed.

well almost to the date of the acute illness. I will give a brief description of the clinical symptoms in his own words.—(*Transactions of the Missouri State Medical Association*, 1896).

"There is another patent food which produces a totally different complex of symptoms ending speedily in death. The symptoms are those of cerebral inanition. The baby which has appeared to the mother to be in good health up to the time of its seizure, suddenly begins to reject food, and the nausea is so intense that the very sight of the bottle will often induce retching in the little sufferer. Insomnia is persistent; hypnotics (if indeed the stomach does not reject them) frequently seem to have no beneficial effect. No fever; fontanelles sunken; countenance, a look of anguish. The eyeballs are constantly rolling and the child seems in a state of terror. It makes frequent outcries, but it is not the cephalic cry of basilar meningitis. The mode of death is peculiar. The mother will say that the child died in a convulsion, but upon inquiry we find that only a slight tremor convulsed the frame and it was all over."

Now, this clinical syndrome I have been calling Saunders' disease. I have met a few cases which resemble it very much. One case recently presented the symptoms so strikingly that a brief history of the case will be given.

S. H., male, aged 11 months, was born at term after a natural labor. The infant was small at birth and was placed on the bottle at once. The first food was a modification of cow's milk, the exact composition of which I did not ascertain. When about three weeks old it had a very severe gastroenteric indigestion which threatened its life. This was the beginning of a long series of acute disturbances of the digestion. At the age of six months, while out of the city, it became sick with an ileocolitis and almost died. When it returned to the city a very prominent physician had a most difficult time in getting the little one to digest any food. Two months before its fatal illness I saw the infant. It weighed only about 9 pounds. The skin was in folds and the infant had the appearance of simply atrophy. The physician in charge had placed the infant on a mixture of egg-albumen, cream and sugar mixture. On this he gained slowly but had two or more stools daily containing numerous curds (fatty salts).

On the day of its death I was called suddenly and obtained the following history of its last illness:

On the previous day the infant had appeared perfectly well although he had refused his food. During the night he commenced to vomit which persisted until the morning. Everything in the nature of food seemed repugnant. Water was vomited. A mixture of water and lime water was also ejected after a few minutes. There had been two evacuations of the bowels the evening before; since then none. The infant lay in a semi-conscious condition, eyes rolling at times. Again he would cry out as if in severe pain. It was ascertained that the egg-

albumen which the attending physician had prescribed, had been left out of the mixture by the nurse and she was feeding the baby on a cream, water and sugar mixture which had approximately (according to my calculations), the following composition: fat 3 per cent; sugar 8 per cent; proteids one-third of one per cent. Hence there was a great excess of hydrocarbons and carbohydrates over the proteids. The sugar used was milk sugar (Merck's).

Examination revealed a small infant (weight about 11 pounds) showing evidence of prolonged malnutrition. The face had an anxious expression when the baby was awakened, but when quieted the infant appeared semi-conscious. The eyes were sunken and the fontanelle depressed. The face was pale, the lips cyanotic. Respiration was hurried and deep. A moderate degree of rickets was evinced by a rachitic rosary and large fontanelles, also the delayed teething. The mouth had a healthful appearance. The pulse rate was 122, but the volume and compressibility of the pulse suggested a weak heart. The rectal temperature registered 99 3-5.

Physical examination of the chest and abdomen revealed nothing of special interest. The second cardiac sound was accentuated. The abdomen was not distended. The extremities showed a slight tendency to rigidity. Kernig's sign was very doubtful.

An ounce of water and lime water mixed was taken after some coaxing, but was ejected in almost 20 minutes. A hypodermic injection of strychnin improved the pulse very much. A large enema brought away a small stool, greenish in color and composed principally of white or greenish white masses (soaps?) The odor of the stool was rather offensive but not more than was usual, the mother stated.

The infant was placed on a starvation diet, no food was ordered. I prescribed a tablespoonful of water flavored with ginger ale, to be given every 15 minutes. Internally one drop of adrenalin chlorid solution, and a little magma magnesiae and peppermint water was to be given every hour. A minute dose of the tinct of strophanthus was also added, to the peppermint-magnesia mixture. No urine could be obtained. No blood examination was made.

The infant had repeated attacks of agonizing cries throwing himself wildly about. He retained some of the water apparently. About three hours after the visit, the infant suddenly had a convulsive tremor and expired.

What caused the infant's death? The cerebral symptoms and the cardiac depression certainly suggested some general poisoning. While the very irritable stomach suggested that an acute gastritis was present, the other symptoms suggested an intoxication. Was a bacterial toxin at the root of the disease? The violent acute onset naturally suggested a toxin in the milk. The cream used in the infant's food was the best obtainable, that is, "certified milk." It was skimmed off daily by the

nurse from a quart bottle. An exogenic intoxication of bacterial origin seemed very improbable.

The similarity of this clinical syndrome to that to which I refer as Saunders' disease at once suggested that the fault may lie in the excess of fat and sugar in proportion to the proteids in the food.

When some proprietary foods are given for some time the infant receives a great proportionate excess of carbohydrates to the proteids. Often the infant receives 8 or 9 per cent. of carbohydrates and only 1 per cent. of proteids. These improper compositions must lie at the door of the trouble, for certainly bacterial intoxication could hardly be considered in the case of Nestles food, since the food is boiled shortly before use.

In the case which I reported, too, the excess of sugar and fat in the food was the striking evidence of the anamnestic data.

I hold, therefore, that Saunders' disease is a distinct disease. It is a fatal, or at least dangerous illness, characterized by vomiting, severe cerebral symptoms and profound depression of the circulation, and occurs in an infant having digestive disturbances to whom is given a relatively high percentage of carbohydrates. While some proprietary foods having an improper composition is most commonly the direct cause, it may occur as a result of feeding with an irrational milk mixture as noted in the case reported.

II.

The subject of alimentary intoxication from perverted digestion or metabolism has received a renewed practical interest since the publication of the studies on this subject by Finkelstein (*Yahrb. f. Kinderheilkunde*, January and March, 1907.) This author concludes, after a very careful study, that there is an acute nutritive disturbance in infants due to disordered metabolism and not to exogenic infection as commonly taught. In this disease the symptoms of a general intoxication predominate, while the phenomena of collapse and rapid loss in weight point to a profound nutritive disturbance.

A typical syndrome is characteristic of the disease, and Finkelstein insists that all the symptoms must be present in order to establish the diagnosis. The group of symptoms are as follows: 1—Impairment of consciousness; 2—singular change in the type of respiration; 3—alimentary glycosuria; 4—fever; 5—collapse; 6—diarrhea; 7—albuminuria and cylindruria; 8—loss in weight and 9—leucocytosis.

The alteration in the consciousness varies. Usually the infant lies in a stupor, and when awakened has little interest in the surroundings. The eyes are staring and the eyeballs sunken. Occasionally, in severe cases a very wild restlessness supervenes and the little patient tosses itself about and utters shrill cries. Often the disease resembles the classical hydrocephaloid (Marshall Hall) and may be easily mistaken for tuberculous meningitis.

The change in the type of respiration is regarded by Finkelstein as almost pathognomonic. The respiration is slightly accelerated but the inspiration is much deeper than normal. It is regular and not irregular as in tuberculous meningitis.

A very constant phenomenon is the presence of sugar in the urine. This sugar is not glucose as in diabetes, but is lactose and galactose. Langstein and Meyer had previously called attention to this sugar in the urine in infants suffering from a gastro-intestinal disease, but Finkelstein places all these cases in the class of alimentary intoxication.

The fever is usually very moderate. Symptoms of collapse and diarrhea vary in different cases as to the degree of severity. Vomiting may be severe. Some cases assume the type of cholera infantum.

In practically all cases albumin and casts may be found in the urine.

The leucocytosis is usually only slight (less than 30,000.)

Certain facultative symptoms are apt to be present. Nervous irritability may be observed. Vasomotor exanthemata are very common. Sclerema may be a complication.

The onset of the disease is usually sudden although on more careful investigation it is found that an indigestion more or less severe has preceded the appearance of the serious symptoms.

Finkelstein declares that this syndrome is in some way etiologically related to the metabolism of carbohydrates. In proof of this he cites certain experimental and clinical data which show that the disorder is most liable to occur in infants who are fed an excess of sugar. The foods which contain a high percentage of carbohydrates are most liable to induce this morbid condition. The buttermilk fever described by Tugendreich, he believes, is really the alimentary intoxication, because a considerable amount (5 per cent) of sugar is usually added to sweeten the milk.

Several infants who were fed on a diet very rich in carbohydrates promptly developed the symptoms. Finally lactose injected hypodermatically also induced similar symptoms.

The most clinching argument, however, was the clinical phenomena that the afflicted infants improved or entirely recovered promptly whenever the sugar was withdrawn from the diet. A cereal decoction (unsweetened) was indifferent as far as the aggravation of the disease was concerned. The most rapid recoveries took place when water or weak tea was administered. Starvation, then, led to prompt improvement.

Further observation showed that either casein or lactalbumin could be safely given, while whey, which contains milk sugar, aggravated the symptoms.

In discussing the nature of this affection, Finkelstein is by no means very definite. Outside of the observation that sugar increases the severity of symptoms, in which effect it is very much aided by an excess of fat, and the presence of lactosuria no proof is given that the sugar

is really the direct cause of the disease. He regards the trouble rather as an intoxication by some unknown intermediary metabolic product, the nature of which is unknown.

III.

Is Saunders' disease the same as Finkelstein's disease? As the complete symptoms have not been gathered in the former disease the comparison can not be accurately made. But as a carbohydrate excess seems to be etiologically related to the former affection I am rather inclined to view Saunders' disease as a very severe type of alimentary intoxication in the sense of Finkelstein. That milder cases of Saunders' disease occur which may end in recovery is extremely probable. That an infant may have recurrent attacks, and thus resemble the cyclic vomiting of older children, is also possible. If the Finkelstein syndrome should prove to be diagnostic of a specific intoxication, this discovery will be a very important advance in the pathology of nutritive disorders.

The alimentary intoxication may arise during the course of a variety of conditions. Most commonly it occurs in the acute indigestion and gastroenteric infections. It may occur at any time during a chronic digestive disorder of infantile atrophy. It is not an infrequent complication of the severe infectious diseases (septicemia, meningitis, etc.) These diseases must be regarded as the predisposing cause, the actual cause being some error in the diet as to quantity and quality.

This subject has been further elucidated by Meyer (Yahrb. f. Kinderheilkunde, May 1, 1907), who studied the metabolism in alimentary intoxication. The details of this article need not be given here. Suffice it to state that these researches show that this affection is quite different from that known as acidosis by Czerny and Keller.

It is evident that sugar is by no means a harmless ingredient of the food as is generally assumed. Especially does milk sugar seem to be an offending principle and Jacobi may in the end prove to be correct in advocating the use of cane sugar in preference to milk sugar. Sugar is in itself not the toxic agent as even Finkelstein must admit. The lactosuria is only an evidence of the katabolic disturbance.

Lactosuria as a symptom of gastroenteric disorder has been known for many years, but no one had previously associated this condition with a typical clinical syndrome. That the presence of lactose and galactose in the urine will prove to be absolutely characteristic of alimentary intoxication in the sense of Finkelstein is very doubtful. Meyer (*l. c.*) is probably correct in regarding the presence of galactose as an interference with oxydation. He attributes the presence of lactose in the blood to an improper function of the intestinal epithelium without sufficient proof, however. One thing seems certain, which even Finkelstein admits, and that is the oxidation powers of the tissue cells are very much inhibited. This leads me to connect these researches with those

of Howland and Richards recently published (*Archives of Pediatrics*, June, 1907).

These investigators in studying the recurrent vomiting of children point out that the ordinary products of proteid putrefaction (indol, skatol, etc.) require oxidation before they are transformed into the final product which is excreted by the kidneys. Indol, for example, must be oxidized to indoxyl and this substance combines with sulphuric acid to form indican. Indol is not usually toxic to animals, but if through the internal administration of potassium cyanid or chloroform, the powers of oxidation are reduced, indol becomes very poisonous to the organism.

It is most remarkable that the symptoms given by dogs poisoned with indol resemble in every particular those of Saunders' disease, and it seems to me that while these investigators were working on recurrent vomiting of children, they threw an unexpected light upon some of the grave complications of gastroenteric diseases, especially on that form which I have designated Saunders' disease, or which in its wider application is the alimentary intoxication of Finkelstein.

Of course, no one would assert that indol is the one toxic agent, although it is probably one of them.

Naturally the question presents itself, what has the sugar to do with diminishing katabolic oxidation? Nothing definite can be stated in answer to this question, although several possibilities suggest themselves.

Excessive oxidation of carbohydrates and fats may interfere or prevent the oxidation of other bodies, indol for example. We know that the proper oxidation of fats depends on the normal oxidation of carbohydrates. One substance depends on another for proper katabolism. An excess of carbohydrate katabolism may inhibit proteid oxidation.

An excess of sugar is not the only factor which predisposes to the alimentary intoxication. Some interesting observations of Meyer (*Monatschr f. Kinderheilk*, Bd. v. No. 2) are interesting in this connection. He found that infants afflicted with pyloric stenosis are readily subject to attacks of alimentary intoxication; in fact, death may be due to this morbid condition. He suggested that a demineralization of the body may be the direct predisposing cause, an acidosis (Czerny and Keller) in other words.

Now this is the view that Dr. Saunders entertained concerning the disease which I have named after him. For years he has insisted that these severe symptoms arose because the alkalies, that is the bases, in the foods are not properly adjusted. Urinary examinations are unfortunately wanting.

Excessive terrestrial heat inhibits the oxidation functions and may thus serve as a predisposing cause. Demineralization diminishes the various functions of the organism including ferment action and thus interferes with oxidation.

Finkelstein gives as one of the strongest evidences of this metabolic disorder the fact that the patient immediately improves when only water, weak tea or a cereal decoction is administered. It should be remembered, however, that this method of feeding also prevents intestinal putrefaction, that is the formation of indol. Hence we come back to our original theory that bacterial activity is connected with the appearance of this toxicosis. As to the harmlessness of milk proteid in this condition, too little proof is given. Still, it is in harmony with the clinical experience that albumen water can be safely given in the crises of gastroenteric disease.

The disease improves when the formation of indol in the intestinal canal diminishes, or when normal tissue oxidation is restored. The process as will be seen is very complex and much clinical and experimental work is necessary before the hypothesis suggested can be placed on a definite position. The subject is worthy of special study.

In a subsequent article I will report other cases of Saunders' disease and discuss the clinical management.

1460 South Grand avenue.

MEDIEVAL MEDICAL EDUCATION.*

By JAMES J. WALSH, M. D., Ph. D., New York.

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Nothing is more amusing than the complacent self-sufficiency with which each generation of men is prone to view the work of its predecessor. We are always apt to think that what was done before our time amounted to very little. The farther away the time under consideration happens to be, the surer are we that it cannot have been of much significance for progress. If the problem to be considered in the olden times is one that we think we are only solving now, then we are sure that not only they did not solve it in the past but, that they did not even think of it. "We are the heirs of all the ages in the foremost files of time." In no department of education is this perhaps truer than in medicine at the present day. We are prone to think that the present lengthening of the medical course and especially the insistence on a good preliminary education before medical study can be commenced, is an affair certainly of the last half century, if not of even more recent times. Nothing could well be more false than this, for at least three or

*The material for this article is condensed from a chapter on Post-Graduate work at the Medieval Universities of a book *The Thirteenth, Greatest of Centuries*, by Dr. Walsh, published by the Catholic Summer School Press, New York City. The Thirteenth Century gave us the Gothic Cathedrals, the Universities in the form in which we now have the great technical schools, in which the arts and crafts developed the greatest literature of any like period, and the origin of all our legal rights and privileges.—Author.

four times in history very definite and determined and even successful efforts have been made to regulate medical study, and then after a time, unfortunately, the old abuses have crept in and the whole business of reform has had to be done over again.

When after a prelude like this I proceed to call attention to the fact that the regulation of medical education occupied men's minds in very much the same way at the beginning of the fourteenth century as it does now, at the beginning of the twentieth century, it will be thought at once, that I am some one with an axe to grind about the Middle Ages, and that whatever is to be said for such a far-fetched statement is due to the over enthusiastic ardor of a devotee of things medieval. At once there comes the thought that no matter how much time they spent at medicine in the fourteenth century, since they did not study the things that we are now studying, it does not make very much difference how they regulated medical education. It is ordinarily said that university medical students occupied themselves with disputations over all sorts of theoretic medical questions, but did nothing practical and learned nothing practical during their university course. It is not surprising that such an opinion should be abroad, but it is founded entirely on a lack of knowledge of the matters studied in the medical schools in the Middle Ages. I often quote that fine expression of Josh Billings in this regard: "There is nothing that makes men so ridiculous as the knowing so many things that aint so." We have known a whole pile of things "that aint so" with regard to medical education.

As a matter of fact medical students occupied themselves with very much the same thing in the fourteenth century that ours do now. Until the old medical text books of the thirteenth and fourteenth centuries were printed by private enterprise and munificence and by various old text societies the thought was more or less excusable that medical education in the Middle Ages did not amount to much. At the present time such a mistake would be unpardonable for any scholar who pretends to first hand knowledge of this period. In his address before the Congress of Arts and Sciences at St. Louis, two years ago, Prof. Clifford Allbutt, Regius Professor of Physic at the University of Cambridge, reviewed the progress of medicine and surgery down to the sixteenth century. Some of his utterances about the ordinary teaching in the medical schools of Italian Universities during the thirteenth century must be a source of supreme surprise to those who have been accustomed to think of ignorance of science or neglect of observation as the distinguishing marks of medical education of that time.

There is scarcely a modern idea in medicine or surgery that was not seriously touched upon by distinguished teachers of medicine in the thirteenth century. William of Salicet, and Lanfranc anticipated many of the ideas that are supposed to be essentially modern. They insisted on the necessity for ligatures for bleeding vessels, of the advisability

of picking up the ends of severed tendons and nerves and suturing them together, of the danger of wounds and operations in the regions of the neck, of the hardening of the kidneys that is associated with dropsy, the importance of certain forms of social diseases supposed not to have been recognized until long after their time; and they did their teaching by means of cases and not as it is usually asserted by discussions on Hippocrates and Galen. The employment of opium with its scientific limitations began in the thirteenth century, and a form of anaesthesia introduced by Ugo da Lucca was much more widely employed in surgical operations than modern students of medical history have had any idea of until very recent years.

In a word it may be said that the student of medicine of the thirteenth century had to devote himself to very nearly the same departments of science as those which occupy his colleagues of the present century. If anything his knowledge of the allied sciences had to be, with due allowance for the times, wider than that of his fellow-student of the twentieth century. Diseases were supposed to be much more due to climate and to the conformation of the earth, to soil, and the like at that time, and these had to be subjects of study. At the end of the fourteenth century antimony was probably introduced into medical practice and it seems not unlikely that other minerals had been employed before this and that medical students were expected to know something about them. Of plants they were expected to know in a general way much more than the modern medical student, to whom botany is not considered of much importance, and of zoology they probably had at least as great practical knowledge, since many of their dissections were made on animals, and the differences in structure between them and man were pointed out when the animal anatomies or human dissections at the universities were made.

With this premise most people will be much more willing to consider the subject of how they taught medicine during these centuries than before. Fortunately we have some documents which show us exactly what they tried to accomplish in the matter of regulating the practice of medicine. There is for instance a bull of Pope John XXII, who was pope from 1316-1330, in which he approves the establishment of medical courses in the University of Perugia, which belonged to the Papal States, and in addition makes certain suggestions which were really formal statutes, because he was the civil ruler as well as the ecclesiastical authority, in order to maintain the standards of education and secure the best possible arrangement of the medical course at the new university.

This bull was issued February 18, 1321:

"While with deep feelings of solicitous consideration we mentally revolve how precious the gift of science is and how desirable and glorious is its possession, since through it the darkness of ignorance is put to flight and the clouds of error completely done away with so that the

trained intelligence of students disposes and orders their acts and modes of life in the light of truth, we are moved by a very great desire that the study of letters in which the priceless pearl of knowledge is found should everywhere make praiseworthy progress, and should especially flourish more abundantly in such places as are considered to be more suitable and fitting for the multiplication of the seeds and salutary germs of right teaching. Whereas some time ago, Pope Clement of pious memory, our predecessor, considering the purity of faith and the excellent devotion which the city of Perugia, belonging to our Papal states, is recognized to have maintained for a long period towards the church, wishing that these might increase from good to better in the course of time, deemed it fitting and equitable that this same city, which had been endowed by Divine Grace with the prerogatives of many special favors, should be distinguished by the granting of university powers, in order that by the goodness of God men might be raised up in the city itself pre-eminent for their learning, decreed by the Apostolic authority that a university should be situated in the city and that it should flourish there for all future time with all those faculties that may be found more fully set forth in the letter of that same predecessor aforesaid. And, whereas, we subsequently, though unworthy, having been raised to the dignity of the Apostolic primacy, are desirous to reward with a still richer gift the same city of Perugia for the proofs of its devotion by which it has proven itself worthy of the favor of the Apostolic See, by our Apostolic authority and in accordance with the council of our brother bishops, we grant to our venerable brother, the Bishop of Perugia, and to those who may be his successors in that diocese the right of conferring on persons who are worthy of it the license to teach (the Doctorate) in canon and civil law, according to that fixed method which is more fully described and regulated more at length in this our letter.

“Considering, therefore, that this same city, because of its convenience and its many favoring conditions, is altogether suitable for students and wishing on that account to amplify the educational concessions hitherto made because of the public benefits which we hope will flow from them, we decree by Apostolic authority that if there are any who in the course of time shall in that same university attain the goal of knowledge in medical science and the liberal arts and should ask for license to teach in order that they may be able to train others with more freedom, that they may be examined in that university in the aforesaid medical sciences and in the arts and be decorated with the title of Master in these same faculties. We further decree that as often as any are to receive the degree of Doctor in medicine and arts, as aforesaid, they must be presented to the Bishop of Perugia, who rules the diocese at the time, or to him whom the bishop shall have appointed for this purpose, who having selected teachers of the same faculty in which the examinations are to be made, who are at that time present in the university to the number of at

least four, they shall come together without any charge to the candidate and, every difficulty being removed, should diligently endeavor that the candidate be examined in science, in eloquence, in his mode of lecturing, and anything else which is required for promotion to the degree of doctor or master. With regard to those who are found worthy their teachers should be further consulted privately, and any revelation of information obtained at such consultations as might redound to the disadvantage or injury of the consultors is strictly forbidden. If all is satisfactory the candidate should be approved and admitted and the license to teach granted. Those who are found unfit must not be admitted to the degree of doctor, all leniency or prejudice or favor being set aside.

"In order that the said university may in the aforesaid studies of medicine and the arts so much more fully grow in strength, according as the professors who actually begin the work and teaching there are more skillful, we have decided that until four or five years have passed some professors, two at least, who have secured their degree in the medical sciences at the University of Paris, under the auspices of the Cathedral of Paris, and who shall have taught or acted as masters in the before-mentioned University of Paris, shall be selected for the duties of the masterships and the professional chairs in the said department in the University of Perugia, and that they shall continue their work in this last-mentioned university until noteworthy progress in the formation of good students shall have been made.

"With regard to those who are to receive the degree of doctor in medical science, it must be especially observed that all those seeking the degree shall have heard lectures in all the books of this same science which are usually required to be heard by similar students at the universities of Bologna or of Paris, and that this shall continue for seven years. Those, however, who have elsewhere received sufficient instruction in logic or philosophy having applied themselves to these studies for five years in the aforesaid universities, with the provision, however, that at least three years of the aforesaid five or seven-year term shall have been devoted to hearing lectures in medical science in some university and according to custom, shall have been examined under duly authorized teachers and shall have, besides, read such books outside the regular course as may be required may, with due observation of all the regulations which are demanded for the taking of degrees in Paris or Bologna, also be allowed to take the examination at Perugia."

Certain features of this bull are especially noteworthy in the light of modern educational experiences. The pope was confirming the establishment of a new university. It was to be as he realized, a smaller university in size, but he did not want its standard of education to be lower than that of the great universities. For this reason he insists specifically in the bull that the license to teach, the equivalent of our modern doctorate in law, letters, science and medicine, shall not be given except

after the completion of a course equivalent to those given in these subjects in Paris or Bologna, the great universities of the time, and that the examinations shall be quite as rigid and shall be conducted under conditions that, as far as human foresight can arrange, shall preclude all possibility of favoritism of any kind entering into the promotion of candidates for these degrees. The fact that oaths were required in the hope that standards would be thus maintained shows how seriously the subject of education was taken at this time, when, if we would believe some of those who depreciate the Middle Ages, ecclesiastical efforts were mainly occupied with the attempt to keep the people as ignorant as possible.

This phase of the papal decree is all the more interesting when it is viewed in the light of some modern educational developments. A few years ago there was a very general complaint that the doctorate in philosophy was conferred too easily, especially by the minor universities, and that as a consequence this degree had come to mean very little. It required a distinct crusade of effort to raise standards in this matter, and even at the present time the situation is not entirely satisfactory. A very curious element in the situation lies in the fact that, in comparison to the number of students, certain of the smaller universities conferred this degree much more frequently than the larger universities. This was found to be true even among the German universities, where I believe that, according to statistics, the little University of Rostock, in Mecklenberg, confers the degrees proportionately oftener than any other German university. Pope John XXII was evidently endeavoring to prevent any such development as this, or perhaps he was trying to remedy an abuse which he knew had already crept in, for all of his bulls on educational matters insist, with no little emphasis, on the necessity for the maintenance of a high standard of educational requirements as regards the length of time in years, the books to be read and lectures attended, as well as on the rigid yet absolute fairness of examinations.

There are other bulls and decrees of this same pope establishing medical courses in the University of Cahors, his birthplace, and encouraging the study of medicine at the University of Rome, from which city, the popes were then absent being at Avignon, and all of them couched in practically the same terms. John paid out of his revenues the salary of the Professor of Physic at the University of Rome and as is well known this term meant medicine. Yet John XXII is said to be the pope who forbade the study of chemistry and did many other things to discourage the development of science. What he forbade in prohibiting what were called "alchemyes" at that time, was not scientific investigation, but the pretended making of gold and silver, by which poor people were being robbed of their money. There were fakes in those days as well as in ours and the pope was protecting foolish speculators as far as he could. The story of what he tried to do for medicine is the best example that I know, of how long ago they began to regulate medical education in just the same way that we are trying to do now, and that their success was only temporary is but another proof of how careful we shall have to be of any progress that we may make in this line.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

BLOOD FORMATION IN THE LIVER AND SPLEEN IN EXPERIMENTAL ANAEMIA.—Morris. (*Bull. Johns Hopkins Hospital*, June and July, 1907).—In view of the histological changes in the liver and spleen of individuals dying from the various forms of anæmia, the author conducted a series of experiments upon rabbits with a view of determining whether or not these same changes occurred in the animal by the administration of substances known to cause anæmia. Upon the death of the animals, microscopic examinations were made of the bone marrow, spleen, liver, kidneys and lungs. The author came to the conclusions that the anæmia produced in rabbits by the administration of pyrodin, either in the stomach or under the skin, is one with a high color index and results from injury to certain of the red blood corpuscles which are then removed from the circulating blood by phagocytes in the spleen, bone marrow and liver. This resembles the condition found in pernicious anæmia in man.

The increased blood destruction leads to increased (compensatory) blood formation.

The stimulus to increased regeneration of the blood, whatever its nature may be, leads to heightened activity of the hæmatopoietic function of the bone marrow, the occurrence of myeloid elements in the spleen and occasionally in the liver.

The changes occurring in the liver and spleen in the experimental animals are similar histologically, so far as the hæmatogenetic cells are concerned, to those seen in the normal rabbit's embryo at certain stages in its development, and it may be assumed, therefore, that the spleen and liver have taken up their embryonic function, *i. e.*, hæmatopoiesis.

The return of the embryonic function is in the reversed order of its disappearance.

Hæmosiderosis, of the organs occurs as in pernicious anæmia of man.

The weight of experimental evidence favors the theory of increased blood destruction (the toxic theory) rather than that of decreased blood formation as the chief factor in the production of primary pernicious anæmia in man.

VEGETABLE OR MEAT DIET IN HYPERACIDITY.—Schloss (*Archiv. f. Verdauungskrankheiten*, Part 3, Vol. 13).—It was formerly generally supposed that in view of the fact that albumins neutralized the acid in the stomach, and that an albuminous diet was indicated in cases of superacidity, but in view of the expressions of Jurgensen and others, there has been a material change in the popular views. He argues that while the albumin neutralized a portion of the acid, at the same time it

stimulated the mucous membrane to an increased production of the same. This the author has attempted to demonstrate through a series of experiments upon animals in which he produced the Pawlow stomach, and succeeded in doing so to his entire satisfaction. His object was to show that in the treatment of these cases, success depended not so much upon the neutralization of the acid already produced, as the prevention of its further production. That diet is best which produces the least stimulation on the secretory apparatus. He found in these experiments that the vegetable diet called for less secretion for a shorter length of time than the meat diet. That meat alone stimulated the mucous membrane to a far greater production of acid and that a mixed diet produced an amount between that of the vegetable and the meat diet. He recommends in cases of hyperacidity a vegetable diet admixed with small amounts of albumin.

SERUM DIAGNOSIS IN LUES, TABES AND PARALYSIS THROUGH SPECIFIC PRECIPITATES.—Fornet (*Muenchner Med. Wochenschrift*, No. 30, 1907).—Through a series of experiments Fornet has demonstrated to his own satisfaction, that the serum from paralytics and tabetics give constantly with the serum of syphilitics, a positive precipitate reaction, and vice versa. He believes that by this means it is possible to make a positive diagnosis as to the syphilitic origin of paralysis and tabes. In a majority of the cases in which this method has been tested, spirochætæ have been found, and on the other hand, cases in which spirochætæ were found the "specific precipitates" could be demonstrated.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

ABOUT R. E. WRIGHT'S OPSONINS AND THE THERAPEUTIC METHODS OF WRIGHT IN INFECTIOUS DISEASES—M. Loehlein (*Muench Med. Woch.*, 1907, No. 30).—There is no doubt that the work of Wright and his enthusiastic followers has opened up a wide field of research and investigation. The subject of his work is one that is not primarily original with him, but was simultaneously established and inquired into by other observers, mainly Neufeld. The difficulty in understanding the phenomena concerned was expressed by the latter by giving the bodies acting in it the name of bacteriotropic substances, acting on bacteria to make them susceptible to the phagocytic action of leucocytic cells. Any explanation of the nature of the process was for the time not attempted because the necessary data for a definite attack on the problem was out of reach. We already knew that in certain infectious diseases these bacteriotropic substances played a great part, for the action of Marmorek's antistreptococcus serum was attributed to their qualities. These qualities, however, remained absolutely unknown in their essential nature, and even the work of Hektoen has not brought us nearer to an understanding. All the established facts following from the work done by Neufeld, Wright,

Hektoen and many others, consist only in the demonstration of substances in the serum acting on bacteria in a way to make them accessible to phagocytosis. It is not considered that phagocytosis exists without the presence of the bacteriotropic substance. It is not regarded that the meaning of phagocytosis is yet a very much discussed problem and that no uniformity of opinion exists about it. Starting from the experience that normal serum contains regularly opsonin in a nearly equal quantity in every case, Wright, assuming the role of phagocytosis as identical with the production of immunity, conceived the idea, that the quantity of bacteriotropic substances, or opsonins, had great value in estimating the probable course of a bacterial infection, and that the latter could be influenced or altered by the increase or decrease in the blood of these substances. An increase would mean improvement of the protective and defensive weapons of the organism; a decrease a victory of the infecting bacteria. By his vaccine method he tries to increase the quantity of opsonins and to control the administration of the vaccine by the opsonic-index, as he calls it. His theoretic basis for this procedure is not unobjectionable, which accounts for the hesitation of other than English and American scientists to adopt his conclusions. Loehlein, in the paper reviewed here, has given a concise representation of the actual condition of the opsonic question. Wright believes that the problem of bacterial infection is solved by the assumption that pathogenic bacteria in each case multiply under the influence of a decrease of the "bacteriotropic pressure" in a certain area of the organism, where anti-bacterial substances are not present, or at least less in quantity than in the circulating blood. Thus he explains that bacteria are not destroyed by the combined action of opsonins and leucocytes. That such conditions frequently obtain is demonstrated in a number of infections by Wassermann and others. The difference between the views of Wright and the facts found is, that the local immunity studied is due to tissue immunity, and not to the absence of any anti-bacterial bodies in the tissue fluids. Wright's vaccine infections are intended to increase the amount of opsonins that reach the focus of infection and then stimulate phagocytosis.

In the first place it must be said that phagocytosis, spontaneous or opsonic, need not lead always to the death of the bacteria. A famous and very important instance of this are the plague bacilli. A more important objection is the well known fact that pathogenic bacteria entering an animal body change their biologic character considerably, so that in a short time where the natural protective substances can act against them, they become insusceptible to them. They are practically-immune. This condition has been studied by Cohn on the typhoid bacillus, by Bail in his studies on aggressins, by Bordef for streptococci, by Metchnikoff for plague bacilli, by Silberberg for chicken cholera. For tubercle bacilli similar observations have been lately made by Loewenstein. The objection against Wright is that bacteria in the test tube behave quite differently from what they do in the living animal body. While, for instance, anthrax bacilli, directly taken from an infected animal, can in no way be made susceptible to phagocytosis, cultures of the same bacilli on nutrient media are promptly taken up by the leucocytes. The changes that bacteria undergo within the body are considered by Theobald Smith as protective sheaths or coverings. For many bacteria actual evidences of this

kind are well known. Wright's observations in the test tube have no binding meaning for the processes going on in the living body. Any attempt to solve the problem of bacterial infection that does not consider the biologic changes of the bacteria within the body, must a priori be insufficient. This obtains also for Wright's theory.

It is possible that Wright's opsonic-index in the future may be used as a practical indicator in immunity-reactions. Up to this time, however, our knowledge about the significance of opsonins and phagocytosis is not sufficiently deep to allow of a final conclusion. One main question is that about the phagocytic and bactericidal capacities of the leucocytes themselves. It is certain that the latter can without the interference of body-fluids enclose and digest pathogenic bacteria. That living bacteria are phagocytosed is today established. Certain bacteria, however, that, living, are insusceptible to phagocytosis, behave the same way after being killed by heat. On the other hand, it has been demonstrated that washed white corpuscles will take up, for instance, cholera vibrios and digest them in the same way as their destruction occurs in the peritoneal cavity of a guinea pig. The character of the effect of opsonins on bacteria is absolutely obscure. The assumption by some that opsonins represent the normal amoebocytes of every serum cannot be accepted. Are the opsonized bacteria actively destroyed by the phagocytes, or must they be prepared for phagocytosis by normal or artificial bacteriolytic substances? These are problems that have not been approached as yet. It is certain that the leucocytes, although in their extract no bactericidal substances have been demonstrated, can actively digest bacteria, as does immune serum. Buxton, in his experiments on peritoneal absorption, has called attention to the importance of phagocytosis by assuming that when destroyed and digested within the leucocytic cytoplasm, the bacterial endotoxins are eliminated, while, set free in the body fluids, they would be absorbed and cause intoxication.

The subject of phagocytosis and opsonins is in so many directions, as yet altogether problematic. Before the intimate nature of these phenomena is established, the results that are claimed for their practical therapeutic application, can be considered only with hesitation as evidence for the truth of Wright's theories. To establish a scientific basis for them is not beyond possibility; work is going along on this line today by unbiased observers, and will in time decide the question.

DISCUSSION OF PLEHN'S PAPER ABOUT PERNICIOUS ANEMIA.—R. Plehn (*Berl Klin. Woch.* No. 24, No. 25).—The subject of pernicious anemia has been for many years one of the most discussed problems of pathology. Its etiology is today as obscure as it ever was. The conception of intestinal origin founded by Hunter and lately strongly emphasized by Grawitz, is deceiving, as the basis of it, the intestinal and gastric lesions, may be just as well a consequence as the cause of the disease. The paper of Plehn, cumulating in the establishment of two different classes of pernicious anemia, as well as single opinions brought out by discutants will not be reviewed here. They bring nothing new, nothing to come nearer the etiologic, biologic or organogenetic sides of the question. The most surprising feature of this paper and the discussion held on it is the uncertainty about the diagnostic side of the question. Long treatises were

given on the value of the megaloblasts, and the fact brought out that megaloblasts have been observed in cases that certainly were not pernicious anemia. In the whole discussion there was a wavering of opinion how the blood picture must be constructed to form that of pernicious anemia. The leucopenia, the relative lymphocytosis, were all made the objects of long speeches, while not a word was said about the basal peculiarity of the disease, the character of the red corpuscles. Ehrlich's classic work on the disease, that most likely was not all that was taken as it and named as such by Bierman, was only utilized in reference to megaloblastic forms, poikilocytosis and normoblasts. The main feature that forms the essential character of the blood in pernicious anemia, that represents in itself the disease without megaloblasts and other anomalies, and that at one glance at a specimen reveals the condition, is left out of discussion, although it represents the type that by Ehrlich was marked as pernicious anemia, the type that is separated from all other anemic conditions by it.

Without any prominent changes in the other anomalies, the red cells are always much larger in the average; they stain intensely, no anemic rings are seen in spite of the greatness of the anemia. They are not only larger in the average than the normal erythrocytes but they are not round; they are always more or less ovoid, or in other words show differences in length and breadth. The presence of this shape together with an intense staining capacity, alone establishes the pathologic condition. This character was Ehrlich's criterion in separating from other severe anemias a group, that by its course is identical almost in all cases. Otherwise the diagnosis of pernicious anemia would become a subject resembling the diagnosis of so many so-called typhoidal and malarial disturbances. If pernicious anemia is talked about as a pathologic unit, the red corpuscles decide the question. The post-mortem lesions of these real pernicious cases are always identical. Ehrlich's suggestion of a return to embryonic blood formation is very significant, as in fact, the corpuscles have all of the characteristics of the corpuscles up to the fifth month of fetal development.

DIAGNOSIS

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

A DIAGNOSTIC SYMPTOM IN APPENDICITIS.—Blumber (*Muench. med. Wochen.*, 1907, No. 24).—One of the most important questions that arise in connection with the early diagnosis of appendicitis relates to the degree of participation of the peritoneal covering. During the last year and a half the writer believes himself to have noted a new symptom, the presence of which points to peritoneal involvement. In the typical case of early appendicitis, gentle pressure over the affected area produces pain

which ceases as soon as the pressure is relaxed. When, however, instead of being gradually withdrawn, the hand that exerts the pressure is suddenly removed, the resilient tissues are thrown into more or less vibration and this in itself may produce a pain which the patient can nearly always clearly distinguish from the original pressure-pain. The writer believes that this pain, produced by the sudden removal of the palpating hand, is dependent upon the inflammatory involvement of the peritoneum. If it is more intense than the pain produced by the palpation of the appendix, the infection is probably progressing; if less intense the disease is retrogressing. The worst cases are those in which the symptom appears suddenly and with great intensity. The writer's experience is not based on a great mass of material but he requests that other clinicians give the method a trial.

CUMMIDGE'S TEST FOR PANCREATIC DISEASE.—Cummidge (*Edin. Med. Jl.*, 1907. No. 2).—In reply to Haldane who had denied to Cumming's test any diagnostic significance, the latter replies, reiterating his claims for the test and giving a new and improved modification. The importance of the whole question may warrant a somewhat detailed account of the test. A sample of the 24 hour urine is tested for albumen, sugar, bile and other abnormal constituents and if found free from them, is carefully filtered. To 40 c.c. of the clear urine 2 c.c. strong hydrochloric acid are added and the whole boiled for ten minutes in a long necked flask surmounted by a funnel. Cool, and add water to bring the more or less concentrated fluid back to 40 c.c. Add slowly 8 grammes lead carbonate and neutralize if necessary. Filter until clear through a moist filter paper. Shake the filtrate with 8 grammes of basic lead acetate and again filter until clear. Remove the lead by shaking the filtrate with 4 grammes of powdered sodium sulphate, boil, cool, and filter. To 10 c.c. of the clear filtrate add 7 c.c. distilled water, 2 grammes sodium acetate, 0.8 grammes phenylhydrazin hydrochlorate, and 1 c.c. 50 per cent acetic acid. Pour into a small flask with funnel condenser, boil on the sand bath for ten minutes, filter hot through a moist filter and if necessary add to the filtrate enough water to make 15 c.c. When the test is positive a precipitate forms on standing a few hours; in doubtful cases it must be allowed to stand over night. The precipitate is flocculent, bright yellow in color and microscopically consists of long, yellow, hairlike, flexible crystals, readily soluble in 33 per cent sulphuric acid. It thus clearly resembles a modified phenylhydrazin test for sugar. In order to exclude the latter as a possible source of error, the test should be done with a second sample of the same urine, omitting, however, the first step of boiling with hydrochloric acid. If sugar is present the yellow crystals will form even so. Cumming declares his test positive only if the crystals are obtained in the manner first described but fail to form when boiling with hydrochloric acid is omitted. Pancreatitis regularly gives a positive reaction; pancreatic cancer in about one-fourth of the cases examined. Other conditions that may be confused diagnostically with pancreatitis fail to give the reaction. It will be seen that while the test is a little laborious, all the manipulations are very simple and require no apparatus but flasks, test-tubes and funnels.

PALPABLE AND MOVABLE KIDNEYS IN INFANCY.—Leiner (*Zeitschr. f. klin. Med.*, 1907, No. 62).—As the result of a long series of observations, the writer concludes that kidneys which are distinctly palpable and movable, should not be considered pathological in infancy and early childhood. They can be felt in every case in which accidental causes, such as spasm of the abdominal muscles, do not interfere with palpation. The attempt of Blum and others to interpret a palpable kidney in early childhood is a beginning floating kidney is not justifiable.

A NEW FLUID FOR THE HAEMACYTOMETER.—Edington (*Lancet*, 1907, July 13).—A diluting fluid, which has some points of superiority over the solutions ordinarily used, may be prepared as follows: Take neutral sodium citrate, 7.5 grammes, formalin 2.0 cubic centimeters, dahlia (Gruebler's) 0.03 grammes, chloroform 5 drops and distilled water 250 cubic centimeters. Rub up the stain with a little water, then add the rest of the water and finally the other constituents. Allow the mixture to stand for a few days and decant. It is particularly useful for counting red blood corpuscles.

THERAPEUTICS.

IN CHARGE OF

WM. ENGELBACH, M. D.

THE TREATMENT OF ANAEMIAS.—Sittmann (*Deutsch. Med. Woch.* No. 52, *Rep. Ther. Monatschr.* July 15).—Excluding the secondary anaemias in tuberculosis, nephritis, carcinoma, anchylostomiasis, etc., the therapy of anaemic conditions can only be symptomatic as long as we are unable to distinguish more accurately the etiology of the various pathologic conditions of the blood. This holds true in our efforts to treat the underlying causes of secondary anaemias. The therapeutical agents may be conveniently classified according to symptoms as they arise. General dietetic and hygienic rulings which would influence the whole organism must be considered. In cases of acute and chronic posthaemorrhagic anaemias, a diminution of the total amount of blood is the most striking feature. Such measures are therefore indicated which would make up the total loss of blood. Of the numerous methods of transfusion only Fiemssen's can be considered, *i e.*, normal blood is taken from one of the veins of the arm by means of a syringe and is injected directly into the vein of the patient. Transfusion of blood of different species, as well as the intravenous or subcutaneous injection of defibrinated human blood, have been discarded. The indication for cardiac insufficiency which, excepting the lack of oxygenation, is the greatest danger in severe hemorrhages, is hypodermoclysis of sterile salt solution. This replaces the amount of fluid lost, and also stimulates the immigration of erythrocytes deposited in the blood-making organs. The blood serum is thus refilled with cells and the function of oxygenation restored. Of the quantitatively changed constituents of the blood, only the haemoglobin can be directly replaced by therapeutic means. This is accomplished by giving iron. As the percent-

age of haemoglobin is decreased in every form of anaemia, iron medication is always indicated. Only in the cachectic stage of progressive pernicious anaemia untoward effects have been ascribed to iron. Most striking are the results in chlorosis, in which we simply have to deal with changes in the haemoglobin. In other anaemias the administration of iron as an adjuvant to other therapeutical agents is indicated. Complicated organic preparations are superfluous, for iron in any form, organic or inorganic, is absorbed. The writer has had good results with Blaud's pills (3 per diem.) In severe cases at the same time liquor ferri album (31 to 55ss per diem) is added. Thus the average daily dose of 0.1 g. metallic iron contained in 5 Blaud's pills or in 25 g. liquor ferri album is greatly exceeded. In administering iron, however, it is better to give too much than too little. It is of utmost importance to avoid gastric disturbances. It is far better to discontinue the iron for some time if they occur. The writer does not believe that iron as such causes the dreaded pyrosis and gastric pains. They are due rather to the high percentage of alcohol contained in some of the organic preparations, to the excessive hardness or to the great bulk of pills or tablets. He sometimes*observed the gastric disturbances disappear by directing the liquor to be greatly diluted before administering, or by ordering the pills to be coated with chocolate instead of having them sprinkled with lycopodium or pulvis liquorice. Iron preparations should only be given after meals. Injury to the teeth only manifests itself in cases where iron is administered for too long a period. Another group of medicinal efforts tends to increase the activity of the blood-forming organs. Concerning haematopoesis, arsenic only is considered. Thus treatment with arsenic holds exclusive rights in those diseases of the blood, the existence of which we perceive, is a deranged function of the spleen, bone-marrow and lymphatics, i. e., progressive pernicious anaemias and leukemias. In chloroses of long duration and simple chronic anaemias it may be advantageously employed as an aid to the process of regeneration. For internal use the liquor kali arseniosi is most adequate, while for subcutaneous administration the harmless sodium arseniosum is given the preference. Natrium caco dylicum, a later pharmaceutical product, may be used for both methods of administration. It does not matter in which form or way arsenic is employed, it should be given in small doses in the beginning of treatment and gradually increased. Symptoms of intoxication must not be forgotten, and treatment should at once be discontinued if they manifest themselves. In the treatment of leukemias with Roentgen-rays we have of late obtained the means which enable us to diminish the pathologic hyperactivity of the blood-forming organs; and if permanent cures have as yet not been obtained, marked improvement has been reported. Utmost care of dosage is necessary, as the function-inhibiting effect upon the spleen and bone-marrow might go as far as to even harm the normal function, to cause a diminution of the red cells, and thus actually make present conditions worse. The most difficult task for the physician in treating anaemias is the dietary regulation. Rest in bed is necessary for every anaemic person. By being kept in bed an exaggeration of the processes of exchange brought about by work and cooling is avoided, and the introduced calories may be almost completely utilized in the processes of reconstruction. Absolute rest in bed should, under no circumstances, be discontinued until

the percentage of haemoglobin has reached 65 to 70 per cent; even then rest in bed for several hours after dinner should be taken. Later, a sojourn in one of the "steel baths" in the mountains, or on the seashore, may be conveniently considered. As for dietetics only general recommendation can be given. An abundant mixed diet is to be recommended. Foods containing too much albumen should at best be discarded, as the increase of processes of oxydiation brought about by them might act injuriously. The writer makes it his practice to give nourishment five times a day. Great attention should be given to regularity of the bowels. Hydrotherapeutic measures as a rule may be excluded. During convalescence, mild applications such as frictions, baths, etc., may be employed. Cold water is to be avoided. Massage is only indicated in chlorotics with tendency to obesity.

TREATMENT OF CONSTIPATION.—Lewandowski (*Ther. der Gegenwart*, July, 1907).—In this article the author considers the later theories regarding the cause of chronic constipation, and bases his treatment upon these theories combined with the knowledge gained from his own personal applications of them. Kohnstamm's theory fixes the cause for chronic constipation as due to a substance derived from the decomposition of albumin which decreases the peristalsis. He therefore limits or interdicts the use of meats. The author admits the plausibility of this theory, but says that it cannot be accepted on account of the fact that the clinical experience proves that it is not constant in all the cases. He maintains that the chemical cause of constipation therefore has not been established. A. D. Schmidt has advanced a mechanical theory. This theory depends upon the absence of an indigestible residue for the cause of constipation. When, for any reason, there is not enough residue left in the large intestine to stimulate peristalsis by the mechanical irritation, constipation will be the result. He has used this theory as a basis for his treatment with Regulin and Pararegulin. These preparations are cascara agar solutions, which depend for their efficacy on their property of greatly increasing in volume by the assimilation of water. Strassberger's theory places the cause of constipation upon the decreased number of bacteria which he found present in the feces of obstipation. The author agrees with Klein that all organic causes and constipation due to primary diseases in other systems must of necessity be excluded by diagnosis. He mentions the fact that insomnia is one of the most common symptoms of chronic constipation. This is due to intestinal unrest and distention, and is usually relieved by the treatment of its cause. Disturbance of the circulation of the large intestine is an exceedingly common cause. Of eleven hundred patients he attributed the cause to dilated veins and capillaries in 153 or 17 per cent. This is found to be present more frequently in men than in women and more often in those suffering from obesity. He agrees with Boas that varicosities of the veins, especially about the rectum, are a predisposing cause for carcinoma in that region. The treatment of obstipation is divided into two parts; (1) The material to be given to the patient, and (2) the manner of giving this diet in the proper way and time. It is self evident that eating slowly, proper mastication and dissolution with saliva, besides the hygienic care of the mouth and teeth, are to be first considered. An important matter concerning the diet is the per-

sonal idiosyncrasy that different people have for different food stuffs. For example, mother's milk produces in some infants constipation, while in others it produces diarrhea. This holds true in adults with cow's milk. An addition of salt or sugar, cooking the milk a longer or shorter time, sterilization of it, or drinking it hot or cold, or other modifications may influence its effect some, but usually only slightly. Cocoa and coffee produce mild colics in some people. This much neglected personal effect of food stuff upon the individual should always be inquired into and cannot be ignored in any of the chronic cases. In persons suffering from obesity, instead of reducing the fluids it is better to institute smaller meals and more solid diet given at shorter intervals. The author agrees with Boas that in these patients, as well as others, suffering from conditions modifying the position of the abdominal organs (pregnancy, perineal lacerations, neurasthenia, emaciation) that rest cure is indicated and produces very favorable results. Besides the quality of the diet, the time and amount must be specified. Some food stuffs should be taken in the morning, others at night, some with and some without water, etc. This also holds good with medication. In general substances which increase peristalsis are more effective if given when the stomach is empty. Those substances which increase peristalsis by mechanical irritation of the intestines are only slightly different from an ordinary stimulating cathartic. Under this head are Regulon and Pararegulin. They are indicated in patients confined to bed in whom a soft semi-solid diet is to be given; for example, ulcer of the stomach during and course of appendicitis. Schmidt's method of giving with them apple sauce and potato soup can be recommended. Other vegetables and fruits are also indicated. This method is also very beneficial with fat people. The ordinary cathartics are considered necessary evils. If they are used at all they should be changed frequently so as to retain their effect. Enemas, on account of their decreasing effect, are considered useless in the chronic cases. Among the many beneficial non-medical procedures are massage and gymnastic exercises. Abdominal massage while the diaphragm is fixed by forced inspiration is considered very helpful. Gymnastic exercises as described by Schreiber and Hughes are the most valuable. Hydrotherapeutic measures are best carried on in the sanitarium. They consist of hot and cold packs and slapping, hot and cold sitz baths, and local sprays and douches. In order to encourage proper local circulation, restricting clothing about the waist and pelvis should receive attention. Psychotherapy is indicated in special cases. Flatulent colic (colica flatulenta) should receive special attention. This occurs in two varieties, the acute and the chronic. In the acute form the symptoms are pain and distention of the abdomen. A characteristic hot burning painful sensation in the lumbar region, which is considered pathogenic by the author. Besides these symptoms, anorexia, nausea, and belching are complaints. A small pulse and a slight increase in temperature is usually present. Occasionally peristalsis is demonstrable. No meteorism or other abdominal findings are present. The treatment consists in absolute rest, hot compresses to the abdomen and lumbar region. Fluids in the form of lemonade, and mineral waters should be given in large amounts. The ordinary carminatives have no effect on the condition. Cathartics and enemas are absolutely counterindicated. Under the above treatment the symptoms usually subside in six to eight

hours, and the patient is absolutely comfortable. The acute form usually comes on very suddenly, in people who rarely suffer from obstipation. It is frequently found present with heart disease. Symptoms are insomnia, pain in the abdomen and back, frequent desire and effort to defecate without effect, anorexia, and colic of a more or less severe degree. The treatment is as follows: Diet is the most important. Small, frequent meals interdicting foodstuffs which do not agree with the patients is the best general rule. Lemonade, hot tea, peppermint, kimmel, annis, tennel, etc., are indicated. Hot applications to the abdomen help to relieve the symptoms. Oil per mouth and in difficult cases lavage of the stomach usually produce the desired effect. In those cases of constipation due to a mechanical or anatomical condition, for example, a chronic localized peritonitis following appendicitis, salpingitis, paranetritis, injections of thiosinamin is considered the best treatment. (Thiosinamin is given hypodermically and per mouth. Because of the softening which it causes in sclerotic tissue it is supposed to relieve the mechanical obstruction present in this form of constipation.—Ed.)

VERONAL IN VOMITING OF PREGNANCY.—Rowland (*Ther. Monatshr.*, July, 1907).—In a case of obstinate vomiting in the second month of pregnancy, which resisted all means and had already led to a considerable decline of strength, the writer gave 2.0 veronal in enema. The patient fell asleep lasting 11 hours, and after awakening had no more vomiting for 25 hours. As vomiting occurred again afterwards in the same degree of intensity the same dose was given again with like results. Later on vomiting appeared only a few times and disappeared entirely after one month.

VENESECTION.—Mendel (*Ther. d. Gegenwart*, July, 1907).—The author after giving a history of venesection, shows how this method of treatment once discarded has been again brought into use with specific indications as one of the best adjunct methods for a number of conditions. After giving a detailed description of the technique of performing venesection, and methods for overcoming some of the difficulties which present themselves in performing it successfully, he gives the indication for its employment, as follows:—1. Disturbance of the functions of the blood; (a) gas poisoning, (b) uraemia, (c) eclampsia, (d) gout, (e) chlorosis. 2. Disturbances of circulation; (a) local, (b) general. In gas poisoning, venesection is beneficial because the blood withdrawn by this procedure relieves the system of the carbonmonoxide-haemoglobin which is functionless, and later deleterious on account of its bad effect, especially upon the nervous system. Besides this the withdrawal of part of the blood causes a rapid formation of new blood cells, and serum which dilutes the remaining blood containing the gas in fixed combination with the hemoglobin. For this reason it is also indicated in other poisonings, arsenic, sewer gas, etc., because it meets the “*indicato causalis*.” Considering Cohenheim’s theory of uraemia, that the blood is overloaded with toxic substances, to be correct venesection is one of the best means to combat this condition. The author emphasizes the point that it should be employed early as a prophylactic measure. As soon as there is a suspicion of this condition, exhibited by headaches and

nausea, venesection followed by transfusion of normal saline solution with hypodermic injections of morphine should be given. The same holds true in chronic nephritis. In eclampsia it is only indicated when a delivery is not possible, on account of danger to the mother or child. In gout it is indicated to relieve acute joint symptoms, and also affords a method by the transfusion of alkaline solutions to increase the alkalinity of the blood. Dyes and his students have produced very favorable results by means of venesection in chlorosis. The effect in this disease is the stimulation to the new production of the blood cells by small and oft-repeated venesection—50 to 100 grams at a time. The author personally observed three cases treated in this way without either favorable or unfavorable results. In local disturbances of the circulation, apoplexy, cerebral arterio-sclerosis, hemorrhages from the lungs, or other organs, are given as indications for its employment. General disturbance of circulation, as pneumonia and other conditions causing dilatation of the right heart, and also all conditions causing acute dilatation of the left heart indicate its immediate use. In these conditions, large amounts, over 300 grams of blood should be withdrawn.

TOXICOLOGY OF ATOXYL.—Blumenthal and Jacoby (*Ther. Monatsheft*, July, 1907).—The authors attempted to determine in which organs of rabbits the effects of toxic doses took place. They were able at the time of death of the animal or shortly before to demonstrate arsenic in large quantities in the blood and bones of the animal. On the other hand they have never found arsenic in the other organs, excepting a very small quantity in the liver, and only once in the brain. They concluded that poisoning from atoxyl does not consist in a combination of arsenic with tissue cells, but that it occurs in the blood. Clinical as well as pathologic-anatomical symptoms, such as hemorrhages in all organs, have led them to the conclusion that a purely arsenical effect is produced. Some clinicians have thought of a probable anilin poisoning, but the absence of the "ocker yellow" color of the blood which is so characteristic in anilin poisoning makes this theory improbable. Blumenthal's experiments on dogs proved that symptoms of anilin poisoning were absent; thus confirming these findings. Atoxyl should be preferred to the arsenous acid, because arsenic in "statu nascendi" is split up in the animal body. Arsenic in the form of atoxyl is bound in the benzene ring. Atoxyl is an amidophenyl-arsenate of sodium. The rapidity of the splitting off within the organism it has been thought to be slower than other arsenic. It seems, however, that this view is not true, because the authors were able to demonstrate the presence of arsenic in the bladder of rabbits one hour after administration. On the contrary the excretion after one single injection of 0.4 g. lasted six days in the rabbit. Atoxyl does not act directly upon bacteria, but acts either through splitting off of arsenous acid or through stimulation of those faculties of the organism which brings about a destruction of bacteria.

CASES OF VERONAL POISONING—Zornlaib (*Win. Med. Woch. Ref. Ther. Monatsheft*, July, 1907).—A man 54 years of age took a quantity of veronal, estimated by author from 8 to 10 g. with suicidal intent. After $2\frac{1}{2}$ hours patient was found unconscious. Face was cyanotic, corneal re-

flexes were absent, pupils half contracted and hardly responded to light. Breathing superficial and frequent, pulse 84 but strong. Notwithstanding a thorough washing of stomach, injection of camphor, vinegar enema and inhalations of oxygen, an exitus letalis followed 24 hours after having taken the poison. Two other cases were a pair of lovers who took 6 g. veronal each with suicidal intent. The girl died after 3 days without ever regaining consciousness; the man recuperated, probably due to vomiting which occurred soon after taking the poison.

SURGERY.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

OPERATIONS FOR NON-MALIGNANT DISEASE OF THE STOMACH.—Moynihan (*Surg. Gyn. and Obstet.*, June, 1907).—The first class of cases discussed is the perforating ulcers. Of these there were twenty-seven, ten duodenal and seventeen gastric, with eighteen recoveries. One must not wait for quickened pulse rate and rigid abdomen before operating. The first symptom is sudden agonizing pain, which almost reaches the limit of human endurance, and as a rule there is neither shock nor collapse. Exquisite tenderness of the skin is nearly always found. A diagnosis can be made from the history of ulcer, sudden intolerable pain, restriction of thoracic movements, surface tenderness, abdominal rigidity or restriction of the normally free abdominal movements. Early operation is indicated in all cases; the ulcer should be closed and infolded; excision is not necessary. Gastroenterostomy is advised when the ulcer is near the pylorus and might cause obstruction, or where a second ulcer is present. Drainage is necessary only in the late cases and if used should be suprapubic and in the Fowler position.

The second group is the hemorrhagic cases which are divided into acute ulcer and chronic ulcer cases. He has operated on thirty-three cases with the loss of six. Acute ulcers, when they bleed, are characterized by an abruptness of onset, rapid loss of a large amount of blood, and marked tendency to spontaneous cessation, and an infrequency of any but a trivial repetition. They never require operation. Chronic ulcer hemorrhages may be divided into four classes: I. Hemorrhage, latent or concealed—trivial and inconspicuous. II. Intermittent, moderate quantity, occurring spontaneously or capriciously, no jeopardy of patient's life from loss of blood, but persistent anemia. III. Hemorrhage usually following a warning exacerbation of chronic symptoms is rapidly repeated and abundant. Its persistence and excess are perilous and if unchecked will cause death. IV. Hemorrhage instant, overwhelming, lethal. The group III is the only class demanding operation. Gastroenterostomy alone is a satisfactory operation, but more recently the ulcer has been infolded by two rows of tight sutures about the base which include all the vessels interior.

The third group treats of chronic gastric and duodenal ulcers, and Moynihan's opinion is very emphatically in favor of posterior gastroenterostomy for all cases of simple ulcer, whether single or multiple, in-

volved the pyloric region of the stomach or duodenum, although if active he thinks the ulcer should be infolded or excised, and if extensive multiple ulcers involve a large part of the pyloric region, he believes in Rodman's excision of the ulcer-bearing area. In the diagnosis he believes we can be fairly accurate in locating the ulcer, particularly so if it is duodenal; he believes a diagnosis of the ulcer can be made and its location determined from the history without examining the patient. Repeated stasis of the food for longer than twelve hours means organic disease. He places a high value but no certain reliance on gastric chemical analysis. He does the posterior no-loop operation and he believes the only point to be settled in the technique is the direction of the gastric incision. He recommended formerly that this opening should be from above downward and to the right; later Mayo recommended from above downward to the left, but his experience with this direction has been very unfortunate. He now believes that the direction should be in the direction the duodenum takes as first observed when the colon is raised. This may vary through wide limits. There were two hundred and six cases of gastric or duodenal ulcer operated upon, with two deaths; gastric ulcer alone in one hundred and thirty-eight cases, duodenal ulcer alone in forty cases, and both combined in twenty-eight cases. Gastric ulcer occurred twice as often in women as in men and duodenal ulcer three times as frequent in men. In all these cases after operation there were four cases which were no better. Two of these are "neurotic." In this series he observed fourteen cases of gastric tetany of varying degrees, all with a high degree of pyloric stenosis, dilatation of the stomach with hypertrophy of the wall and obvious peristalsis and a prolonged stasis of food. Gastroenterostomy relieved all of them; two of them had slight attacks and one a severe attack immediately after operation. The fourth group is of hour-glass stomach. It is not infrequently associated with cicatricial pyloric stenosis. The cardiac pouch is usually larger than the pyloric and gastroenterostomy of the cardiac pouch will relieve the condition. There were twenty-four cases operated upon, with four deaths. Gastroplasty was performed seven times, gastrojejunostomy alone seven times, gastrojejunostomy and gastrogastrostomy three times.

GASTRIC AND DUODENAL ULCERS.—Mayo (*Annals of Surg.*, June, 1907).—Nearly all the failures of ulcer surgery are to be found in the so-called clinical or medical or non-indurating ulcers; because (a) the ulcer is not located and many times its existence is problematical; (b) the condition is often confused with pyloric spasm, atonic dilatation, gastrop-tosis and gastric neuroses, or other morbid non-surgical conditions; (c) the ulcer does not give rise to mechanical interference with the progress of food, which would introduce an operative indication.

The location of the indurated ulcer is usually stated as ten gastric to one duodenal, while the author in two hundred cases has found eighty-seven gastric, ninety-eight duodenal and fifteen independent of either viscus. This discrepancy is explained by the fact that the pylorus is usually incorrectly located (the pyloric vein runs upward on the gastric side of the pylorus for three-fourths of its extent) and since gastric ulcers rarely involve the last three-quarters inch of the pyloric end of the stomach—and duodenal ulcers are most frequently found very close to the pylorus—

the mistake is made of calling what seems to be a pyloric ulcer a gastric ulcer. In sixty-nine cases of resected cancers of the stomach, 54 per cent gave a clinical history or a pathologic picture of having developed on the base of an old ulcer.

Chronic non-indurating mucous ulcer is discussed at length with its indefinite symptomatology, which might be equally characteristic of other non-surgical conditions. Pyloric spasm is the most misleading symptom, and it does not indicate ulcer alone, as it may accompany gall-stones, appendicitis or tuberculosis of the cecum. Operations based on the belief or actual existence of non-indurating mucous ulcers have as a class been unsatisfactory, not because of a high mortality, but because in a large majority of cases there has been no relief, or a new element of discomfort has been introduced. Operation in a mucous or undemonstrated ulcer is not indicated unless there exist complications, such as perforation, hemorrhage or obstruction.

BENIGN LESIONS OF THE STOMACH—Monroe (*Ann. of Surg.*, June, 1907).—There were one hundred and fifty cases followed from the operation to the present time, eighty-seven showing gross ulcers, sixteen medical or non-indurating ulcers, twenty-five cases of adhesions to the viscus and fifteen so-called neuroses, while nine were variously classified as ptosis, pyloric spasm, etc. Congenital pyloric obstruction and perforating chronic ulcer must evidently demand surgical intervention. There may be a question in other conditions. The reason for partial success in gross ulcers may be ascribed to the fact that undue prominence may be given by the patient, who for years has been watching her digestive apparatus, to eructation of gas or occasional vomiting, or there may be a weakened neurotic strain, or some intercurrent disease. Late sudden bleeding in two cases that had been cured for a year after gastroenterostomy, give strong reasons for excising extensive ulcers, also to prevent malignant degeneration. In the sixteen medical ulcers, even if there was ptosis or an evidence of the stomach not draining itself, the relief was never more than incomplete and in this class of cases the abdomen is now closed without operating on the stomach. A diagnosis between medical non-indurating and gross indurating ulcers cannot be made without opening the abdomen. Adhesions to the stomach from the gall bladder or other regions, when broken up, give relief in the majority of cases. The worst class of cases to deal with are the neurotics, which were for the most part made worse by operation, and the practice is not to interfere with these cases. The operations used were the long and then the short loop of Moynihan, which was abandoned for the gastroenterostomy and enteroenterostomy, both with fair success. Roux's operation in Y was next used with almost complete success, but the technique was too complicated. It was tried on some of the worst neurotics to prevent regurgitation of bile, nevertheless almost constant regurgitation followed. Now the no-loop posterior gastroenterostomy with the transverse slit in the stomach is the one employed. Finney's operation was used, and although the slower to come, the end results were good. After reopening a number of abdomens with varying intervals after anastomosis, they failed to find any indication of closure of the opening which was made with suture, but in two cases where Murphy's button had been used, the gastroenterostomy had closed so that it had to be remade with clamp and suture.

PYLORECTOMY FOR BENIGN STENOSIS.—Biechot (*Revue de Chir.*, Jan., Feb., March, 1907).—In an extensive article pylorectomy is recommended as the correct surgical procedure for benign stenosis of the pylorus, such as usually is caused by an ulcer. Gastroenterostomy is considered illogical on physiologic grounds because the duodenum is shown to be essential to the proper performance of digestion. It controls the movements of the stomach and its emptying through the pylorus; the passage of the chyme through the duodenum is necessary to the proper functioning of the biliary and pancreatic apparatus. In ulcer there is always danger of cancer developing later, or a perforation or a hemorrhage, which are not prevented by gastroenterostomy. The complications following gastroenterostomy, such as vicious circle, or volvulus of the intestine or the development of peptic ulcer, are great drawbacks to the operation. On the other hand, pylorectomy overcomes all these objections, removes the offending ulcer, leaves a physiologic canal and gives an immediate and ultimate cure. He quotes statistics to show that the mortality of gastroenterostomy is about 5 per cent, and that in pylorectomy the percentage is about the same. But even though the immediate mortality from pylorectomy is greater, the fact that the cure is complete, makes the balance fall in its favor as opposed to a less mortality from gastroenterostomy, with its subsequent greater risk. Quite a number of cases are appended which show the results of such operations.

ORTHOPEDIC SURGERY.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

BIER SUCTION TREATMENT OF TUBERCULAR SINUSES.—Sever (*Boston Med. and Surg. Jour.*, June 6, 1907).—Sever advocates the routine use of Bier suction treatment, combined with compression, in every case where a sinus exists, provided such treatment is applicable to the sinus opening. Of the 16 cases he reports, 8 were either wholly cured or showed very marked improvement. In 5 the local condition showed no change, but the general condition improved to a noticeable degree, the patient gaining weight and showing increased haemoglobin. Three patients got worse under the treatment. The cases treated were cases of Pott's disease, tumor albus, hip disease and osteomyelitis.

TRANSPORTATION OF THE SARTORIUS MUSCLE AS A MEANS OF FIXATION IN EXCISION OF THE KNEE.—Kofmann (*Zentralbl. f. Chir.*, 1907, XXXIV, 417).—For the bad result that often follows excision of the knee, evidenced by posterior flexion, the author cites the fact that none of the many methods of excision which have been devised have overcome this difficulty. The transference of the flexors of the knee to the anterior surface, he has tried, without success. In his next case, he made a median incision, through which he exposed and prepared the sartorius from the middle of the thigh to its insertion into the tibia. He

then opened the joint by a transverse incision, from the end of the first incision over the tuberosity of the tibia to the lateral ligament. The ankylosed joint was excised, and the sartorius was sutured directly over the joint into the belly of the rectus muscle. This allowed the lifting of the limb by the heel without displacing the bones in a backward direction. The wound was closed, and after fifteen days all dressings were removed.

THE TREATMENT OF JOINT ANKYLOSIS BY THE TRANSPLANTATION OF PLATES OF CARTILAGE.—Weglowski (*Zentralbl. f. Chir.*, 1907, XXXIV, 481).—The case reported by Weglowski is of unusual interest, as he was able to note the exact conditions resulting from the interposition of cartilage between the ends of bones, where a joint had become ankylosed. The joint in question was an elbow, upon which he had operated unsuccessfully to restore motion, the surfaces of this joint adhering in spite of systematized exercises and manipulation. Appreciating former attempts to relieve ankylosis by the placing of fasciae and muscle between the joint surfaces, he decided to try cartilage. The patient was again operated upon, the elbow opened, the lower end of the humerus and the upper end of the ulna removed by a Gigli saw, and the head of the radius shelled out. Two plates of cartilage were then removed from the cartilages of the sixth and seventh ribs, along with the perichondrium, to about half the thickness of the cartilage. These two pieces were then placed between the bones with the perichondrium towards the epiphysis of the humerus. They were not sutured in place. The wound was closed and a plaster applied. Healing took place at the end of ten days, and active and passive movements were begun. After four weeks, 60 to 70 degrees of flexion and extension could be easily performed, with normal pronation and supination. Five weeks after operation, the patient died of pneumonia. An examination of the joint showed the cartilage firmly fixed to the humerus, smooth, even and glistening; and microscopic examination showed new blood vessels and normal growth between the bone and the transplanted cartilage.

CLINICAL REMARKS ON THE TREATMENT OF SURGICAL TUBERCULOSIS.—Steward (*Brit. Med. Jour.*, April 3, 1907).—It is doubtful whether the general body of the profession realize the marked improvement which has been made in the treatment of surgical tuberculosis during the last decade. The principles of treatment that apply to a case of pure tuberculous disease are very different from those suitable to a case of mixed infection, and the prognosis of the case is profoundly affected in an adverse direction when once a secondary pyogenic infection has been added to a tuberculous lesion. Tuberculosis of the bone or joint is curable in the great majority of cases; but once sinuses have formed and the bone or joint has become infected secondarily, the case is rapidly drifting into the incurable class, with the prospect of the eventual onset of amyloid disease. It is clearly, therefore, of the highest importance to be careful in these cases, lest operative measures should lead to a mixed infection, and thus contribute to the production of a condition far more serious than that for which they were undertaken. The author calls

attention to the following points in the treatment of tuberculous collections generally, which will minimize the chance of sinus formation. The general condition should be improved as much as possible before operation by complete rest in bed in the open air, and plenty of good food. Incisions should be made where the structures overlying the abscess are thick, so that their subsequent suture will leave a considerable mass of tissue between the skin and the abscess-sac, for if the incision passes through the skin thinned out and adherent to the abscess, the sutures will pass directly through the skin and the abscess-cavity, and thus form lines, along which direct infection will be liable to occur. In the case of a psoas abscess, for instance, it is preferable to make the incision above Poupart's ligament. When the sac of the abscess is reached, it is well to draw the superficial structures to one side before opening the abscess, so that, should the abscess refill and the scar in the sac stretch, the parts immediately over it do not become thinned and liable to give way. The use of the finger to explore the cavity should be strictly avoided. Curetting should be carried on with as much gentleness as is consistent with complete removal of the lining sac. The application of strong antiseptics to the sac-wall is of doubtful utility. Closure of the wound should be complete and thorough and attained by the introduction of several rows of interrupted sutures. Catgut is recommended for suture material. A drainage-tube should on no account be used, and the subsequent dressings should be carried out with the greatest of care to prevent contamination. The parts should then be kept at rest for a prolonged period. Aspiration of a tuberculous collection is both inefficient and risky, in that the fluid contents only can be withdrawn, and that the needle track is liable to become the seat of tuberculous disease. The author dwells upon the great value of prolonging the treatment by conservative methods, as opposed to early operation, and is convinced that better final results are thus attained. For some time he has been giving tuberculin in all cases of tuberculous disease of the bones and joints, and is of the impression that in the majority of cases the effect has been beneficial.

AN ANATOMICOPATHOLOGICAL STUDY OF DISLOCATIONS OF THE SEMILUNAR CARTILAGES OF THE KNEE.—Dambrin (*Rev. de Chir.*, 1907, XXVII, 616).—Operation is necessary where dislocations are recurrent, and where manipulation will not reduce the dislocation. The operation, with care, should be both safe and effective. Arthrotomy, with fixation of the cartilage, extirpation of the cartilage, called respectively meniscopexy, or meniscectomy; in either case the incision is a vertical one, two inches long, about midway between the patella and the internal lateral ligament. The cartilage may be sewed to the periosteum of the tibia, or it may be removed. Dambrin is of the opinion that there is no difference between the operations, but extirpation is slightly safer than fixation. In 87 cases, 4 had mild infection, where the operation was excision, while in 35 cases of fixation, 5 had joint infection. This difference is due to the prolongation of manipulation in suturing and fix-

ing the cartilage, as well as to the foreign bodies introduced. In 53 of the 87 extirpations, absolute cure was obtained. He believes that extirpation of the cartilage is perhaps the better operation, and also that Lenail is wrong in supposing that the meniscus will regenerate after its removal.

INTRA-ARTICULAR INJECTIONS AT THE HIP. THEIR TECHNIQUE AND USE IN THE TREATMENT OF HIP DISEASE—Calot (*Jour. de Med.*, May, 1907).—The inaccessibility of the hip articulation to approach with an injecting needle is outlined, and the dangers attendant on such a procedure are fully described. After many experiments on the cadaver, and considerable practical experience, the author concludes that the point of election for making an injection into the hip-joint lies below the crural arch, outside the course of the femoral vessels. Here the head of the femur can be palpated. The rule is as follows: In a child, eight to fourteen years, the skin is pierced 2 cm. or $2\frac{1}{2}$ cm., below a horizontal line passing between the pubic spines and 2 cm. or $2\frac{1}{2}$ cm. outside the femoral artery, which can be felt pulsating. In an adult, 3 cm. Perhaps a better direction, applicable to all cases, is to pierce the skin half way up a vertical line, passing from the anterior superior spine of the ilium to course of the femoral vessels. The needle must not be pushed in directly from before backwards, but must be inclined upward, and from without inward to an angle of about fifteen degrees. This allows the injection to enter the capsule of the joint under the femoral head. The needle must have a short bevel, similar to the type used for spinal cocainization. It must be forced to a point where the bone is felt. Then the handle is forced transversely and downward, keeping the point in contact with the bone. The injection is put in with force, that the liquid may penetrate to the lower depths of the acetabulum. The needle is then withdrawn and a tampon is held very firmly over the orifice for two to three minutes, to prevent the liquid from escaping, and to favor the transmission of the fluid to all the recesses of the joint cavity. This is followed by a sterile compression bandage. The necessity of doing something more definite to prevent tuberculous disease from progressing is well established. All surgeons familiar with hip-disease know that the great majority of cases have a shortening of three cm., more or less complicated by vicious position and an ankylosis more or less solid. Of course some cases make good recovery, and ultimately have no lameness; but in three-fourths of the cases there is shortening of three cm. and decided lameness. Furthermore, those cases that have abscess are usually under treatment over two years, and have more marked destruction and worst end results. The author claims remarkable results both in checking beginning disease and helping old bone destructions to quiet down without further progress, by the method of treatment he recommends. It is applicable to all joint tuberculosis, the knee, the elbow, the shoulder, the ankle or the hip, and should be put into use whether the disease is well established or just beginning; in fact, as soon as a positive diagnosis is made. The fluid used is of two kinds.

In acutely active and rather light forms of disease, the injection is made of the following ingredients:

Huile	50 gms.
Ether	25 gms.
Cresote	3 gms.
Iodoform	7 gms.

At each sitting, 3 to 10 gms., according to age, of this solution are injected through a No. 2 Collin needle, 8 cm. long, with a short bevel. In fungus forms of disease, the same quantity of the following is used:

Glycerine	20 gms.
Naphtol Camphre.....	3 gms.

This treatment should be put into effect every five or six days for two months, then the case should be allowed to rest for six months, meanwhile keeping up the ordinary orthopedic measures. The author concludes that treatment, such as repose, extension, immobilization, correction of faulty attitude, etc., results in the majority of cases in a shortening of 3 cm. and a permanent limp. This shortening is due to an erosion of the bone at the articulation by the tuberculous process. Mechanical treatment, no matter how well enforced, does not wholly prevent this erosion. The only method of improving the present orthopedic treatment is to inject into the diseased joint area such substances as will tend to lessen the activity of the growth of the disease process.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

A CASE OF ACUTE METASTIC GONORRHEAL MYOSITIS; WITH REMARKS ON THE DIAGNOSIS AND TREATMENT OF THIS AFFECTION.—Cumston (*Amer. Jour. of Urol.*, July, 1907).—This rather interesting and unusual complication came on with the subsidence of an acute attack of gonorrhea. The patient complained of a feeling of malaise, temperature rose to 39.5 deg. C., accompanied by sharp pain in the biceps of the right arm. The muscle was somewhat tumefied, and excruciatingly tender on pressure. The skin was normal in color, and the local temperature apparently not increased. No inflammatory process of the joints was present. Mercurial inunctions were given once daily, and the limb enveloped in towels wrung out in hot water, covered by rubber dam, and internally ol. gaul-

theria, gtts. X. three times a day. The patient slowly recovered, and in about two months had regained the use of his arm almost completely, though it was still somewhat tender. Three months later, when the patient was seen again, recovery was complete.

Metastatic muscular complications of gonorrhea appear to be relatively benign, while in the case of other metastatic myositides, suppuration is very prone to occur, while in milder cases, various forms of muscular degeneration, or atrophy, appear to be the final outcome. In some rare cases, the general symptoms assume such seriousness that death of the patient may result.

In the diagnosis, there are many morbid manifestations, which may deceive the clinician. The presence of a fresh urethral infection will aid in differentiating from muscular rheumatism. In the muscular pains of secondary syphilis, the history and the cutaneous or mucous manifestations, or the action of a well directed specific treatment, will settle the diagnosis. In myositis of the recti abdominalis, with a maximum point of pain over the appendix, accompanied by hardness of the muscle, the condition might lead one to favor a diagnosis of appendicitis. An adenitis might be mistaken for a focus of myositis, but the enlarged glands will always be present in their ordinary anatomical situation, and will never be found in a muscle. Arthritis and peri-arthritis are always accompanied by an enlargement of the joint; movements are impossible, at least temporarily so, while in myositis motion is hindered and even painful, but is always possible. Ankylosis and atrophy are probably never met with in myositis of a gonorrheal type, while in this type of arthritis they are not infrequent. In the gonorrheal form of myositis, there is never any superficial edema, or the hard painful cord so characteristic of phlebitis. Limitation of the pain to a well defined course, generally quite long, will prevent one from mistaking myositis for a neuritis, which is also made evident by special symptoms, such as tingling and trophic disturbances. Myositis of the deep muscles may be mistaken for an acute osteomyelitis, but in the latter affection one will find a more or less deep-seated, painful swelling and a certain number of symptoms of a general character, whose gravity far exceeds anything met with in gonorrheal myositis.

In the treatment, the salicylates appear to have no action, nor do the other drugs ordinarily used in rheumatic conditions, with the exception of oil of gaultheria, which appears to have some soothing, although not curative effect. Tincture of iodine appears to give some relief in certain cases. Rest, with damp heat in conjunction with inunctions of mercurial ointment, will shorten the course of the affection more quickly than any other means we have at our disposal, and this line of treatment was certainly as efficacious as could be expected, in the case here reported.

THE OCCASIONAL FALLACIOUSNESS OF THE DIAGNOSIS OF ENLARGED PROSTATE MADE FROM DIGITAL EXAMINATION THROUGH THE RECTUM.—MacGowan (*Amer. Jour. of Urol.*, July, 1907).—The writer reports three cases to illustrate how a mistaken diagnosis may be made from palpation of the prostate. In the first case, a marked bilateral, smooth enlargement of the prostate was noted. After catheterization, a bimanual examination

disclosed a tumor in the position of the prostate. The cystoscope showed a marked protrusion of the prostate into the bladder, but no distinct nodules projecting into the field. At operation, an abscess and a large number of phosphatic calculi were found in the prostate. In the second case, on palpation, the prostate appeared very large and nodular; the middle and upper portions seemingly projected into the bladder. Upon bimanual examination, the bladder wall was thick. This, however, was attributed to a pericystitis. At operation, the whole superior wall of the bladder was occupied by a thick and heavy epithelioma, which filled the bladder space, rested upon the trigone and felt then, as before operation, to the examining finger in the rectum, like a growth in the prostate, though the region of the trigone was not actively involved in the cancerous process, and the prostate was healthy.

In the third case, the prostate felt, through the rectum, enlarged but not clearly outlined, giving rise to suspicion of cancer of the bladder base. The image of the bladder neck was very imperfect, and many irregular projections could be observed about it. No definite image of the trigone could be observed, and neither uterine could be seen. No satisfactory view of the superior bladder-wall could be obtained. At operation, an hour-glass contraction of the bladder was discovered, the ureters running diagonally across the lower wall of the septum, ending in a trigone which had gradually hypertrophied until it sagged into the vesical outlet, producing total retention and simulating, to the finger in the rectum, prostatic enlargement to such a degree that, in the presence of the other symptoms, deception was easy.

FIBROUS ENLARGEMENT OF THE PROSTATE.—Martin (*Therapeutic Gazette*, July, 1907).—Under this heading the author speaks of the cases, in which, with the fibrous enlargement, a ring-like induration due either to hypertrophy or to fibrous degeneration of the musculature, occupies the position of the internal vesical sphincter interfering with micturition. He quotes Pardue (*Clin. Jour.*, April 17, 1907) as recommending, in these cases, prostatectomy, and of obtaining excellent results by splitting the constricting ring toward the rectum to a degree that will permit the index finger to easily enter the vesical orifice. The same end may be attained by introducing a dilating instrument of sufficient caliber to be stretched up to 80 or 90 of the French scale, thus overcoming the resistance of the internal vesical sphincter. Stretching up to 40 or 50 is practically unavailing, nor is it safe to apply even this degree of distention to the compressor urethræ muscle.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

THE USE OF SUPRARENIN IN OBSTETRIC PRACTICE—Max Neu (*Gynaek. Rundschau*, No. 12, 1907).—In his introductory remarks, while speaking of the pharmacodynamic action of extracts of the suprarenal glands, the writer mentions the very interesting fact, that quite recently Stolz in the "Hoechst Farbwerke" has succeeded in producing synthetically the active principle of this extract.

The effect of suprarenal extracts upon the uterine musculature of late has been carefully studied by Kurdinowski and Kehrer. They both confirmed the older observation that under the influence of this substance the pregnant uterus contracts firmly. Kurdinowski believes, however, that this apparent contraction of the organ is only coincident to the resulting contraction of the uterine blood vessels, and thus denies any specific effect of suprarenal extract upon the uterine musculature. Such a specific action, on the other hand, has apparently been proven by Kehrer. From certain experiments and observations the author of this paper felt justified in accepting Kehrer's views.

An abdominal Caesarian section offered him the welcome opportunity to study the question on the human being. After the pregnant uterus had been developed through the abdominal incision, one hypodermic syringe-ful of a one to ten thousand solution of suprarenin was injected into the uterine musculature in three different places. The uterus immediately contracted firmly, becoming paler in color. The organ could be extirpated practically without the loss of blood. The writer states emphatically that the contracting effect of the intramuscular application of the suprarenal extract in this case was very pronounced and most gratifying.

METRRORRHAGIA SYPHILITICA.—Muratow (*Zentralbl. f. Gyn.*, No. 27, 1907).—The writer points to the striking fact that gynecologic literature contains so few references to a certain form of uterine hemorrhage which cannot be explained except by a syphilitic infection of the uterus. He cites an instructive history in which also the prompt relief following the use of iodides and mercury tends to prove the assumption that the hemorrhage in this case was due to syphilis. It is probable that uterine ulcerations, necrotic gummas, etc., may cause the metrorrhagia, but in analogy to similar hemorrhages from the stomach observed in syphilitic patients; it is probable that the uterine hemorrhage also results from destructive processes in the vessel walls. The writer emphasizes the necessity of a careful search for syphilis, if necessary with the aid of a specialist, in all cases of severe metrorrhagia which do not respond to the customary therapeutic measures. He mentions especially a symptom which of late has been repeatedly described by French writers, consisting in a pain running along the arteries of the pelvic cavity.

THE ADMINISTRATION OF OVARIAN SUBSTANCE IN AN EFFORT TO DETERMINE THE SEX OF THE FETUS—Peham (*Monatschr. f. Geb. u. Gyn.*,

Bd., XXV. H. 4).—The idea underlying this series of experiments made on rabbits is the following: The administration of ovarian substance could possibly influence the sexual vigor of the animal and in this way secondarily exert some influence upon the sex of the developing fetus. The results were entirely negative. Noteworthy seems the fact that comparatively large doses of a homogeneous extract were used obtained from the same species of animals.

THE CONDITION OF THE UTERINE DECIDUA IN ECTOPIC PREGNANCY—W. H. Schultze (*Arch. f. Gyn.*, Bd. 81, H. 2).—The still unsettled question concerning the origin of the lower uterine segment has during the past year been discussed in various important contributions, some of which have been reviewed in this department. Most acceptable seems the explanation offered by Aschoff. According to his investigations the typical uterine mucosa does not end at the internal os but extends downward into the cervical canal. At the site of junction of the uterine to the typical cervical mucosa the lower uterine segment ends which extends upward to the anatomic internal os. It has been the claim of many writers that the lower uterine segment cannot be a part of the cervix and must be a part of the uterine body, because the lower uterine segment always shows a decidua, while according to generally accepted ideas the cervical mucosa does not change into a decidua.

Schultze describes in this article conditions found in a uterus of a case of tubal pregnancy. A typical decidua extended down to the middle of the cervical canal, where the typical cervical mucosa began. This observation clearly supports the contention of Aschoff that the cervical mucosa consists of two sections and in this way throws interesting light upon his theory of the origin of the lower uterine segment.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

CONCERNING PYLOROSPASM—Wernstedt (*Jahrbuch f. Kinderheilk*, June, 1907), as the result of his anatomical studies, says that while the condition is probably congenital, indisputable proof of its congenital nature has as yet *not* been furnished. The author believes, however, that there is at *birth* neither a spasm nor a true hypertrophy, but rather a predisposition for the occurrence of a spasm with secondary muscular hypertrophy. According to his views there can be no question of the functional nature of the disease from either the clinical or pathologic-anatomic viewpoint. The postulated predisposition to spasm is to be explained by imperfect development of function of the nervous mechanism regulating the gastric motility. The increased and partly entirely new demands made on the stomach directly after birth might be the cause of the disturbance of function of the nervous mechanism.

THE RELATION OF DIPHTHERITIC RELAPSES AND MEASLES.—Barbier (*Le Progres Med.*, June 22, 1907), calls attention to the fact, supported by a series of personal observations, that a relapse in diphtheria or a lighting up of a latent diphtheria is particularly frequent if one of the eruptive fevers supervene shortly after the original attack or exposure. Measles seems to exercise a particular influence in this connection, especially if it come on shortly after exposure to diphtheria (even though preventive injections of serum have been given), or if it come on very soon after recovery from an attack of diphtheria. Accordingly the author advises that if measles occur in a diphtheria convalescent within two months of the attack, a further injection of antitoxin should be given at once. If measles break out in a family or an institution where members had been previously exposed to diphtheria, immediate prophylactic doses of antitoxin should again be given, even though they had been used within three weeks (the ordinary period of protection of prophylactic doses).

DIAGNOSIS OF ENLARGED BRONCHIAL GLANDS—Boujarel (*These de Paris*, 1907; *Rev. Mens. des Mal. de l'Enf.*) says that one of the first signs of this condition may be a distinct expiratory stridor making its appearance from the third to the sixth month. This expiratory stridor is due to compression of the enlarged glands and the resulting narrowing of the calibre of the respiratory passages. The stridor is distinguished from congenital laryngeal stridor by its late appearance, its expiratory character and its progressive increase in intensity coincident with the growth of the bronchial glands. In addition to the ordinary methods of physical examination for the detection of these enlarged glands, the author finds the x ray the most valuable diagnostic aid. The enlarged glands throw distinct shadows, the dimension corresponding with the size of the glands. As a confirmatory sign the radioscopic examination is of great value in the diagnosis of this condition. Breton (*These de Paris*, 1906; *Arch. de Med. des Enf.*) finds that radioscopy does not give such good results in the diagnosis of enlarged bronchial glands. He thinks that Eustace Smith's sign (a bruit heard over the jugulum with the child's head in extreme extension) is of distinct value.

ERRORS OF DIAGNOSIS OF APPENDICITIS IN THE CHILD—Barillet (*These de Paris*, 1907; *Rev. Mens. des Mal. de l'Enf.*) says that in the majority of cases diagnosis of appendicitis in childhood can be made easily, because of the clearness of the picture presented here. But in many cases difficulties in diagnosis arise. Among the rarer causes of confusion are: Dermoid cyst with twisted pedicle, pneumococcus, peritonitis, inflammation of Meckel's diverticulum, and acute salpingitis; but inasmuch as surgical intervention is indicated in all of these conditions the error in diagnosis does not do so much harm. On the other hand, recurrent vomiting with acetoneuria, tubercular peritonitis with its so-called crises, may all simulate appendicitis and cause serious error. So, too, gonococcal peritonitis may cause confusion. Many pulmonary lesions, in particular pneumonia, often begin with severe abdominal pain and others may give rise to grave error in the absence of very careful examination.

RADIOLOGY IN THE DIAGNOSIS OF PNEUMONIA IN CHILDHOOD—Weill and Thevenot (*Arch. Med. des Enf.*, July, 1907), as the result of their experimental study of the subject reached the following conclusions: True pneumonia with fibrous exudate gives—nearly always—definite physical signs in the child; dullness, bronchial breathing and crepitant rales; and in all these cases a distinct shadow on the x ray plate. The parallelism between the physical signs from the radiological finding is practically constant. Pulmonary affections which give no shadow with the x ray and which clinically resemble pneumonia, should really be distinguished from this affection as they most often turn out to be either simple congestion or bronchopneumonia with scattered lesions. So-called central pneumonia the authors find to be *very rare*, almost exceptional. The term should be limited to cases which clinically show all the symptoms of pneumonia—*without physical signs*—but in which a shadow with the x ray is found which bears witness to the fact that there is really a fibrous exudate.

NEUROLOGY. *

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

HISTOLOGICAL OBSERVATIONS ON THE CHANGES IN THE NERVOUS SYSTEM IN TRYPANOSOME INFECTIONS, ESPECIALLY SLEEPING SICKNESS AND DOURINE, AND THEIR RELATION TO THE SYPHILITIC LESIONS OF THE NERVOUS SYSTEM.—F. W. Mott (*Archives of Neurology*, Vol. III).—This is a very important piece of research, especially from the point of view establishing the relation of these diseases to that of syphilis. The point that needs emphasis in this connection is, that since Schaudin's discovery of the *trypanosoma pallida* as a cause of syphilis, the study of all diseases caused by this form of parasite is of especial interest particularly if the nervous system shows changes. Sleeping sickness and dourine have been conclusively shown to be due to a trypanosome, therefore a comparison of the nervous system in these diseases and syphilitic brains ought to bring out some important facts. It is the purpose of this paper to point out the similarity in the tissue reaction of certain chronic trypanosome diseases to those of syphilis. The material upon which this study is based is very large, thirty human brains of subjects dying of sleeping sickness, and tissues of nine monkeys inoculated by various methods with blood and spinal fluid from sleeping sickness cases. Some of the observations noted in this extensive piece of research are the following: The disease is characterised by a chronic polyadenitis which is subsequently followed by a chronic inflammatory change in the lymphatics of the brain and spinal cord. The meningeal and perivascular infiltration of the central nervous system may be regarded as the result of a chronic irritative process connected with the presence of the trypanosomes in the cerebrospinal fluid. In marked cases of chronic sleeping sickness the appearance presented by the lymphatic glands resemble in many ways the infiltration of the perivascular lymphatics of the central nervous system.

All cases of sleeping sickness have trypanosomes in the cerebro-spinal fluid at some time or other, and it is probable that the entrance of the trypanosomes into this fluid marks the onset of and slowly causes the chronic inflammatory changes in the lymphatic system of the central nervous system. The alternative hypothesis assumes that the trypanosomes produce a toxin by multiplying in the lymphatic glands which is absorbed by the lymphatics. This toxin proceeds along the vessels and nerves to the lymphatics of the cerebro spinal axis.

THE SUPRARENAL GLANDS IN NERVOUS AND OTHER DISEASES.—F. W. Mott-Halliburton.—(*Archives of Neurology*, Vol. III).—This investigation is of some interest owing to the prominent place which the study of the ductless glands has come to occupy recently. The study was suggested by the frequency with which these glands were found to be atrophied or changed in the routine autopsies at the County Asylums, London. A number of glands were studied microscopically in the usual run of asylum cases. The interest in this paper is accentuated by the fact that not only were these glands subjected to the usual microscopic tests, but they were physiologically tested by Halliburton. The extract of the glands was injected into certain animals to test the blood pressure power of the glands studied. The following conclusions are noted as a result of this work: 1. Atrophy and degenerative changes in the suprarenal glands are frequent in the class of cases of nervous diseases, asylum cases which were especially investigated. 2. These changes appear, however, to be unrelated in any special way to the kind of disease for which the patients were admitted to the asylum. 3. They appear rather to be the consequence of the secondary disease which ultimately caused death. 4. The suprarenal glands, like other secreting glands, are adversely affected by any disease which impairs the general nutrition of the body. 5. The diseases which appear to be especially efficacious in producing this result are those of a chronic and wasting nature, but acute disease, if sufficiently intense, will often produce the same result.

FURTHER BACTERIOLOGICAL AND EXPERIMENTAL INVESTIGATIONS INTO THE PATHOLOGY OF GENERAL PARALYSIS AND TABES DORSALIS.—Robertson M'Rae (*Rev. Neurology and Psychiatry*, June, 1907).—This is a further report on the investigations of these two authors on the new conception of dementia paralytica which may be briefly stated as follows: They have contended that a diptheriod bacillus having cultural and morphological characters resembling those of the Klebs-Loeffler bacillus plays the chief part in the production of the toxemia of general paralysis. They have at the same time insisted upon the importance of weakening of the local and general defenses against bacteria and have attributed the chief part in the production of this impairment to syphilis, chronic alcoholic intoxication and the excessive use of nitrogenous foods. The authors refer in this paper to a continuation of their studies in the cultural and morphological aspects of the bacillus which they contend has been isolated. This bacillus, as is now known, has been termed the bacillus paralyticans. As a part of their experimental data they have attempted to produce in rats by injection of the organisms general paresis or what would correspond to this disease in man. An examination

of the tissues after death in these animals has shown lesions that were very similar to those found in certain cases in man resembling them more than was at first thought possible. All the animals experimented upon died after showing paretic symptoms, and their cerebral tissues show periarteritis, neurologia proliferation and severe nerve cell lesions. Sixty animals were fed from strains of bacteria isolated from cases of general paralysis and tabes dorsalis. Animals from this series showed to a striking degree the symptoms which might be readily interpreted as being those of paresis as it would show itself in animals. A further development of their studies has naturally led to the effort to produce a serum which might be used in a curative way. In this connection they mention a case of early tabes. The patient's urine was found to be loaded with two organisms, diphtheroid bacillus of the type described as the bacillus paralyticus brevis and a diplococcus resembling the gonococcus but gram fast. For a time this patient was treated by the vaccine method, injecting definite doses of killed cultures of the bacillus isolated from his urine. A sheep having been immunized by the same bacillus in such a way as to produce a bacterioidal serum the patient was treated by the serum for some weeks. Further improvement was noted. It is also of interest to note that the bacilli in the urine disappeared. The paper which is here only very briefly abstracted contains much that is of interest and it shows that a progressive piece of investigation, such as this is, will ultimately bring to light important data even if the original thesis is not always in the foreground.

THE SYMPTOMS DUE TO PERIPHERAL NEURITIS OR SPINAL LESIONS IN DIABETES MELLITUS.—Williamson. (*Review Neurology and Psychiatry*, July, 1907).—There are several clinical forms of these affections. 1. The patient complains of pain in the legs, the muscles of the legs are tender on pressure. There may be no other signs or symptoms on examination of the nervous system. 2. Cramps occur frequently in the legs, there is pain in the calf muscles, the tendo-achillis and the knee jerk are present and there is very slight sensory disturbances. 3. The pain is more prominent, hyperesthesia, tenderness in the toes, numbness and tingling in the skin, in some cases the tenderness becomes so severe that the weight of the bed clothes can not be borne. The tendo-achillis reflex is lost, but the knee jerk commonly remains. There is some sweating and hyperaemia in the feet and the tenderness in the soles may be so great that the patient is unable to walk. 4. In another group of cases the pain in the legs is slight but the tendo-achillis reflex is lost, while the others show an absence of both. 5. In the forms just mentioned there is no paralysis or paresis, but in rare groups of cases there are paralytic symptoms in the legs like those of alcoholic neuritis. 6. A few cases have been recorded in which there has been unsteadiness in walking along, with weakness in the legs. 7. In rare cases there are perforating ulcers in the legs like those in tabes with pains in the legs and loss of knee jerk and tendo-achillis reflex. 8. Nervous symptoms are occasionally present in other parts of the body. The pathology underlying these conditions must be considered to be dependant upon changes either in the nerves themselves or in the spinal

cord, or perhaps in the muscles themselves. The author of this paper has found changes in the cord itself that suggest the changes found in tabes.

It is probable that the absence of reflexes in the leg depend upon spinal cord changes. In the minor symptoms examination of the peripheral nerves showed no special alterations.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

NOTES ON A SERIES OF CASES ILLUSTRATING THE LATE RESULTS OF BIRTH INJURY TO THE VISUAL ORGANS.—Thomson and Buchanan (*The Ophthalmoscope*, August, 1907).—*Case 1.* A boy of nine had a high grade of astigmatism in one eye only. The mother stated that the eye had been bruised at birth and showed the scar of a wound in the upper eyelid which had been inflicted by the blade of the forceps. Examination of the cornea showed two almost vertical bands of faint opacity on its posterior surface. Ophthalmometric examination corroborated the finding of over 6 D. of astigmatism and proved that the curvature of the cornea was high.

Case 2. A child of six months showed a single nearly vertical band of opacity on the posterior surface of the cornea. The mother stated that the eye had been injured by forceps at birth and said that the eyelids had been swollen and black for some days after birth.

Case 3. A girl of nineteen stated that vision in the right eye had always been defective. The ophthalmoscope (with a plus 12 lens) revealed the existence of a number of very fine hair like lines on the posterior surface of the cornea. The ophthalmometer showed at least six D. of astigmatism. The history of the birth which was ascertained from the mother, and also from the obstetrician, indicated that the labour had been a difficult one, and that birth had only been completed by a "stiff forceps pull."

Case 4. A boy of seven was brought on account of convergent strabismus and nystagmus. The mother was positive that the eye had turned in since birth. There had been a cut of the right temple close to the eye and the mother averred that it had been inflicted by the blade of the forceps. On examination by direct and focal illumination no evidence of corneal injury was found and in explanation of the squint it is assumed that the left orbit had been crushed and that a spicule of bone had been driven into it and had injured the external rectus muscle.

Case 5. A child of four months was noticed not to follow objects well. Also the eyes frequently turned up and often squinted. The birth was natural, but prolonged and difficult. The eyes were usually turned up and to the left and never turned to the right at any time. There was a peculiar jerking movement at intervals, something like nystagmus but slower. The optic disks were a little pale. Later a condition of general

muscular contracture developed. It is thought likely that a hemorrhage or several hemorrhages in different parts of the brain accounted for the defects.

ON THE TREATMENT OF DETACHMENT OF THE RETINA.—(*Die Ophthalm. Klinik*, April, 1907).—Tourcoing reviews the various methods of treating detachment of the retina and comes to the conclusion that subconjunctival injections of strong saline solutions are the best of all. The results are rendered more certain if this treatment is combined with ignipuncture and rest in bed. He proceeds in the following manner:

(1) Subconjunctival injections of a saturated solution of salt. The addition of three drops of a 1 per cent solution of acoin renders the injections almost painless. The latter are repeated at intervals of several days until vision has become normal or until it does not improve any more.

(2) Absolute rest in bed during the whole of the treatment and until the punctures with the cautery have healed.

(3) Scleral puncture with the cautery over the whole area of detachment.

(4) Treatment of myopia, syphilis, rheumatism, etc.

ON SUPERFICIAL DENDRIFORM KERATITIS (KERATITIS SUPERFICIALIS DENDRITICA).—Pretori (*Arch. f. Augenheilk.*, May, 1907).—The author discusses a form of superficial keratitis similar to but not identical with the usual form of dendriform keratitis. He describes the disease in the following terms: It begins two to three days after a rigor, and is characterized by a shallow dendriform furrow with grey raised edges. The average duration is thirty days. It generally heals without complications and does not cause any permanent serious damage. It is due to influenza.

DOUBLE AMBLYOPIA WITH PERINEURITIS DUE TO ABSORPTION OF THYROID GLAND.—Raimondi (*Rec. d'Ophtalm.*, March, 1907).—The case was that of a woman, aged 45 years, who was taking tablets of thyroid gland to make herself thin. After a month of this treatment she became nervous and weak and suffered from insomnia. Three weeks later her sight began to fail. Vision became reduced to one tenth and there was a central scotoma in each eye. The disks were congested and had a wine colored tint suggestive of the condition found in tobacco and alcoholic amblyopia. There was no history of the use of tobacco or the excessive use of wine and no suggestion of syphilis, albuminuria, glycosuria or disease of the heart or other organ. Raimondi is inclined to regard the visual trouble as secondary to an alteration of general nutrition set up by the thyroid, rather than as a direct action upon the optic nerve. Under treatment by quinine, arsenic and massage the patient recovered completely in a month.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

W. E. SAUER, M. D.

MENTAL SYMPTOMS IN NASAL AFFECTIONS.—Fridenberg (*Med. Rec.*, June 29, 1907).—The author states that nervous disturbances and psychical symptoms may have a two-fold bearing on nasal diseases, according as they are in the nature of cause or of effect, it being sometimes difficult to decide whether a patient is neurasthenic or hypochondriacal on account of an old nasal trouble. However it may be, many patients suffering with nasal disease are nervous.

Local symptoms are the most common manifestations of nervous disturbances in nasal disease. Neuralgic pain and headache are present in obstruction forms and in accessory sinus involvement. Face-ache, radiating to the teeth, ears and brow is common in acute antral supuration. Retention of secretion and chronic hypertrophic inflammation with the production of granulations and polypi may produce a dull intermittent frontal or supra-orbital headache.

The most marked mental complication is that observed in young mouth-breathers afflicted with adenoids. These children are dull, listless, inattentive, fall behind in their class and cannot concentrate their minds. Autointoxication may have something to do with the mental hebetude observed in these cases.

The author quotes Stucky as saying, that acute or chronic disease of the nasal accessory sinuses frequently gives rise to serious forms of mental disturbances as shown by the numerous cases of melancholia and suicide attributed to grippe.

SOME EFFECTS OF SPIRIT AND DRUG TAKING ON THE UPPER AIR PASSAGES.—Crothers (*Med. Rec.*, June 8, 1907), observes that the effects of spirits and drugs on the upper air passages are very marked and common, and yet they do not attract attention. In his experience of nearly thirty years in the constant study and care of spirit and drug neurotics, it is an exception to the rule to find persons who have used spirits and drugs, and do not suffer from catarrh and subacute inflammations of the nose and throat. Alcohol and tobacco seriously impair and finally destroy the vocal powers. These effects are due to both local and constitutional changes in the blood vessels and nerve filaments and absorbents. Cocaine causes a paralysis in the nasal passages extending down to the larynx and throat, when used constantly. The hearing is also affected, and profound anemia of the nasal passages is often a symptom. Tobacco is another irritant and narcotic to the upper air passages, and one of the worst forms in which it can be used is the cigarette, due specifically to the combustion taking place near the mouth, where all the gases and products come in immediate contact with the mucous membranes. Morphine and other forms of opium do not affect the upper air passages directly, but the constitutional effect produces an anemia and subacute inflammation of the mucous membranes.

THE RADICAL MASTOID OPERATION.—Bryant (*N. Y. Med. Jour.*, June 29, 1907).—The author considers the radical mastoid operation a certain cure in the most obstinate cases of otorrhea, thereby doing away with disturbances of the peripheral space organ, facial paralysis, total loss of hearing, metastatic abscess, etc. He places the indication for this operation in two categories: First, those cases of acute mastoid involvement with extensive infection or destruction of the temporal bone, the complete eradication of which destroyed tissue is demanded, requiring the complete evacuation of all the cellular structures connected with the middle ear and mastoid. Second, certain cases of chronic suppuration of the middle ear. In these cases the radical mastoid operation removes the sources of the suppuration and insures its termination.

In the second category of cases, we must consider whether the condition of the ear is serious enough to demand surgical interference, whether the ear disease is a serious menace to the rest of the body, whether cleansing and mild methods have proved futile, and whether the patient is in a sufficiently good general condition to stand the operation.

The author states that the chief accident associated with the operation is injury to the facial nerve which is due, first, to mechanical violence and can be avoided by good technique; second, perineuritis following the operation which is rare and never permanent. He summarizes, that the operation assures cessation of purulent otitis, that it offers immediate relief, that the hearing is much improved, that the cosmetic results are very satisfactory and that the facial nerve paralysis is very rare.

ASTHMA: OBSERVATIONS ON 300 CASES.—Smith (*Med. Rec.*, June 28, 1907).—Asthma, according to the author, is a spasmodic affection of the involuntary muscular fibers of the small bronchial tubes, caused by a reflex irritation of the pneumogastric nerve which contracts these fibers and gives rise to a dyspnea of a paroxysmal character. He says, the claim that true asthma is due to a vascular distention in the bronchial mucosa does not appear to harmonize with the classical physiological experiments, or to prove out in the clinical tests. While it is evident that even in true asthma there is vasomotor disturbances, it is not the vasomotor distention in the bronchial mucosa, but the asthma is due to the pressure on the asthmato-genous points in the nasal fossæ. This acts on the pneumogastric nerve and explains the various phenomena of true asthma. This pressure irritation may be on the septum, or, rarely, there may be no occlusion of the nares, and it may be due to a closed empyema of the ethmoid cells or sinusitis. In every case of true asthma the relief of pressure on these areas will give almost instant relief to the spasm, and the relief is made permanent by such treatment as will prevent such pressure.

The author, in observing 300 cases of asthma, has found that when the nasal pressure is relieved, the diet for the relief of the uric acid conditions and stomach disturbances can be entirely disregarded. He believes that the uric acid conditions and the stomach disturbances may be the starting point of the trouble, but the real trouble lies in the nasal fossæ, and when this is once relieved, the patient may eat anything he wishes, without bringing on an attack.

MEDICAL LAW AND MEDICAL JURISPRUDENCE.

IN CHARGE OFIRVIN V. BARTH, LL. B.

ADDITIONAL COMPENSATION FOR TESTIMONY OF EXPERTS.—*Burnett v. Freeman (Kansas City, Missouri, Court of Appeals, June, 1907)*, 103 S. W. 120.—Plaintiff was a practicing physician in Kansas City. He had been called as a witness for the defendants in two suits in which they were plaintiffs on account of alleged personal injuries. He thereafter brought suit on a *quantum meruit*, claiming \$50 in each case for his services as an expert witness. The Court held that he was not entitled to extra compensation for the testimony given as an expert, though if required to perform services for the party calling him, in addition to giving evidence, he could demand payment for such services.

Further it was held that an agreement to pay the expert extra compensation for his testimony, which he was required to give under subpoena, was against public policy and invalid—and that, too, though the party to the agreement knew that it was the custom of the physician to charge extra for attendance as a witness at the time he was subpoenaed.

NOTE: Here for the first time in Missouri is squarely decided a question of the utmost importance to the expert, his legal right to demand from a party litigant calling upon him to testify as an expert extra compensation for the services so rendered. The courts of various jurisdictions have expressed different views; text-writers are by no means agreed, differing widely upon the force of logic advanced affirmatively or negatively—the entire subject is in doubt and confusion. As a decision which will for the immediate future, at least, control the trial courts in Missouri, the principal case is worthy of note and the reasons advanced interesting if not convincing. We, therefore, quote liberally from the opinion:

“Whether a physician could be allowed to charge for his services as a witness as an expert has been a question upon which the courts have entertained widely divergent views. In *Rogers on Expert Testimony*, 425, it is said that the cases in this country are nearly balanced, and that the question must be regarded as still an open one. Counsel have not cited a case from this state. * * * It is said that ‘there is a distinction between the case of a man who sees a fact and is called to prove it in a court of justice, and that of a man who is selected by a party to give his opinion on a matter with which he is peculiarly conversant from the nature of his employment in life. The former is bound as a matter of public duty to speak to a fact which happens to have fallen within his knowledge—without such testimony, the course of justice must be stopped. The latter is under no such obligations. There is no such necessity for his evidence, and the party who selects him must pay him.’

It is said that, while one owes a duty to the state to come forward, on proper formal process at the instance of a litigant, and testify to what he knows of matters in dispute, he ought not to be compelled to assist a private party in a suit about which he has no knowledge of facts in

controversy, and about which he is asked to contribute professional services. Those holding to the view that the professional man may refuse to so serve the litigant put it largely upon the ground that to force him would be akin to taking one's property against his will for the benefit of another. It seems to us that, in the discussion of the subject, there are some illustrations given which are not apt. Thus, in support of the view that the professional expert should be compelled to testify as to matters of expert opinion, it was asked, and the question has been often quoted since, that 'Were the Prince of Wales, the Archbishop of Canterbury, and the Lord High Chancellor to be passing in the same coach, while a chimney sweeper and a barrow woman were in dispute about a half-penny worth of apples, and the chimney sweeper or the barrow woman were to think proper to call upon them for their evidence, could they refuse it? No. Most certainly not.' Every one (including the expert) would yield ready assent to that statement. The expert would not say that he should not be called to give testimony to anything he may know of the case as any other witness exalted or lowly. His claim is that he ought not to be put on any other plane than the ordinary witness, and ought not to be made to contribute from his calling in life to the benefit of a stranger. It must be admitted that there is strong argument to support either view. It is not far-fetched to suppose a physician or surgeon of such wide reputation for skill and ability that his service as a witness would be required to such an extent as to seriously cripple the practice of his profession for his own benefit. There are instances where a professional man has devoted his life to the free service of his fellows, but it has never yet been said that he could be compelled to do so. If it were known that the free services (save ordinary witness fee) of the most eminent professional men of the country could be compelled at the instance of any litigant, might he not be required to devote a great part, or all, of his time in attendance upon court or in giving his deposition for the purpose of answering hypothetical questions on suppositional facts? It is sufficient to call for grave consideration when a rule is asked to be enforced which could lead to such results. On the other hand, all must concede that the physician, surgeon or lawyer is not entitled to any more consideration than an expert in any other calling. A farmer, a mechanic, a merchant, and he who follows most any avocation, may be qualified to testify as an expert in cases which call for the peculiar knowledge which he possesses, and which he has spent his time and money in acquiring. If either of these could demand compensation (more than an ordinary witness fee) the administration of the law would undergo a radical change.

As illustrated in *Ex parte Durant*, 53 Ala. 394, there may be litigation concerning the sale, or contract for sale, of any commercial commodity. The contract could be proved by the parties, documents, or those acquainted with its terms, and yet it might, perhaps, be necessary to prove the value of such commodity in certain markets on a given day. Dealers in such commodities, entire strangers to the litigant, could be compelled to testify as to such value, though it involved a special knowledge gained in the prosecution of their special calling. Like instances in great numbers could be given, all of which should be classed as expert knowledge, gained at expense to the possessor and out of which he obtains his living.

After consideration of the question in all its bearings, we have arrived at the conclusion that a witness called to testify as an expert, whether as a physician or in any other branch of knowledge, may be compelled to state his opinion upon hypothetical or other questions involving his professional knowledge without compensation, other than the witness fee fixed to the ordinary witness. It is a duty he owes to the state in aid of its orderly existence and in return for which he enjoys its protection and the administration of its laws in his behalf, not least of which would be the compulsion of other experts, whether they be the man who practices a profession, the artisan, the artist, the tradesman, or other person, to come to his aid when needed in litigation in which he might unfortunately be involved. * * * It should be remembered that the duty the expert owes to the state, as a performance of citizenship, rather than rendering of service to an individual, pertains to an obligation to give the court the benefit of the knowledge he has in store at the time he is called upon. He can not be required to especially fit himself for lines of inquiry. He should not be expected to make examinations, perform professional services, and the like, for that is not the office of a witness. He could not be compelled to do that any more than the ordinary person, with no knowledge of the facts pertaining to a case, should be required to go and post himself so as to become a witness."

Following this the court quotes and approves authorities holding that the physician may legally claim compensation when to qualify himself he must make post-mortem examinations or undertake any other operation of skill, analyze stomach contents and perform like services or even when to qualify himself he must attend upon a trial and listen to testimony.

CORRESPONDENCE.

LONDON LETTER.

[FROM OUR OWN CORRESPONDENT.]

The chief events of interest have been the meeting of the British Medical Association at Exeter and that of the British Association for the Advancement of Science, held at Leicester. It was somewhat unfortunate that these two great annual gatherings should have clashed this year, because although at the British Association, medical matters are only directly concerned in the Physiological Section, yet subjects are brought forward in that section which for adequate discussion require the presence of leading physicians and surgeons. The president of the Physiological Section this year is the director of the Physiological Laboratory of the University of London, Professor Waller, whose interest in this branch of science is distinctly hereditary, as he is the son of the physiologist of that name, well-known for his original work fifty years ago. In the opening address of the section, the subject of the action of anaesthetics was dealt with and Professor Waller committed himself to some sensational remarks and figures as to the frequency of deaths from anaesthetics. He stated that the percentage of chloroform vapour inhaled was not known in the methods in use. In the discussion which followed it was pointed out by several prominent men that these assertions were not justified and the Vernon Harcourt inhaler was instanced as giving accuracy and regularity of dosage, with maximum safety in results.

An interesting debate, on a later day, was opened by Professor Cushny on the effect of small doses of alcohol. A valuable survey of recent research was given, and in summing up his remarks the professor said that alcohol may be of some value in therapeutics as a means of making food more attractive, and thus of improving digestion. It possesses some food value itself. It acts as a cerebral depressant, and for that reason may be useful in certain diseases. It may aid a failing heart. A small dose has no definitely poisonous effects upon the tissues, and repeated small doses have not been shown to be deleterious. In the course of the debate Sir Victor Horsley, as usual, utterly condemned the use of alcohol for any medicinal or dietetic purpose, and strongly urged total abolition from the point of view of social science.

Not a single clinical physician of any efficiency and standing supports this extreme view. Some remarks by Sir James Crichton-Browne at a recent dinner have caused no little flutter in the abstinence dove-cotes. He was speaking to a gathering of the Medico-psychological Society, and drew attention to the fact that, though alcohol was alleged to be a potent

factor in the production of mental diseases, an informal census revealed that 94 per cent of those present at the dinner were partaking of alcoholic beverages. This figure corresponded to that obtained at another medical dinner which he had attended shortly before. This number certainly does not overestimate the proportion of medical men in this country, who believe in the value of alcohol as a beverage and as a drug.

The annual general meeting of the British Medical Association was eminently successful. Exeter, the place of meeting, is an historical cathedral city, whose first charter was signed by Henry II. It is the county-town of Devonshire, the land of fair women, clotted cream and many other good things, in the heart of the "West Country," which has furnished so many famous men towards the making of English history. The pride of the West-countryman in his native parts is not surpassed in any other part of the world. They are one and all most kindly folk in every way, so that the Association has had a "real good time." The proceedings were taken up with the discussion of matters worthy of first importance. The president for the year, Dr. Henry Davy of Exeter, devoted his opening address to the subjects of physical culture and exercise, especially as required by children, practical dietetics, and the prevention and hygienic treatment of tuberculosis. He urged the necessity for instruction of the public on all these matters by the medical profession, because of their important bearing upon a healthy national existence, using as his text two points in the Darwinian theory, first, that any organ or structure can only be kept in a proper condition of health and development by proper and adequate use, and, secondly, that only the fittest survive in the struggle for existence; natural laws, which must be considered as applying as equally to nations as to individuals. No system of education, therefore, is good which does not aim at producing healthy bodies as well as well-trained minds. In order to emphasize his argument, Dr. Davy was tempted to adopt the idea of national physical deterioration, which has been proved to be somewhat of an exaggeration.

The Address in Medicine was delivered by Dr. Hale White, Senior Physician to Guy's Hospital, who took as his subject a plea for accuracy of thought in medicine as the essential condition of progress. He right worthily maintained the traditions of his famous hospital and school, providing his hearers with ample food for thought, and telling them at the same time some home-truths, which would certainly cause considerable searchings of heart. As became a pupil and successor of Gull and Wilks, Dr. Hale White insisted that medical men should have the courage to say they do not know when faced with a doubtful case for which no satisfactory solution can be found. The desire for explanations is very marked in all human beings, particularly when they are patients. Rheumatism, gout, or the present popular favorite, uric acid, may be enough to satisfy the patient, in that a name is furnished. With regard to the uric

acid craze, Dr. White's remarks, contemptuously sarcastic, might well be taken to heart by many of the laity, and, it is sad to admit, by many in the profession as well. The "liver out of order" diagnosis, which rivals uric acid in popularity and in veraciousness, was condemned, together with all other make-believes, which show the tendency to pacify the too-prevalent dislike to admit a lack of knowledge by the use of mere words, which really retards progress towards a true explanation. The proper scientific attitude of a healthy scepticism with regard to facts based upon authority, was insisted upon. As regards new ideas, hasty acceptance and would-be critical dilatoriness, obstruction in plain words, are both out of place. What is required is the evenly balanced mind trained to estimate the value of novel suggestions. It is an excellent and most philosophical address, well worth inwardly digesting by every medical man.

Mr. H. T. Butlin, consulting surgeon to St. Bartholomew's Hospital, gave the Address in Surgery, choosing as his topic the contagion of cancer in human beings and auto-inoculation; an aspect of the subject which has hitherto not received much attention, and to which he has devoted much time and consideration.

The main purport of the address was to prove auto-inoculation, because if this can be proved to take place "by such evidence as would be admitted in a court of law, there is a *prima facie* case for contagion." Reports of cases were given on which he claimed to rest his case and, indeed, to prove it. The practical bearings arising therefrom are of importance, for every possibility of wound-infection during operation must be most carefully guarded against.

The death of Sir William Broadbent removes one of the greatest figures in modern medicine, and leaves a gap not easy to fill. His published works bear witness to his high position as a scientific physician, no less than to his skill in the art of treatment. *Nihil quod tetigit non ornavit.*

August 9th.

LETTER FROM THE PHILIPPINES.

[FROM OUR OWN CORRESPONDENT.]

During the last month active operations have very nearly ceased and the American troops have been withdrawn from the field, the Pulajane insurrection for the time being, at least, appearing to be crushed. In Leyte this was largely brought about by the capture of Faustino Ablen, who was responsible for the continued resistance of the natives against the authorities. Ablen exercised a mysterious religious power over his followers, from time to time absenting himself for a few days and upon his reappearance, claiming that he had been to Heaven and had returned with renewed power. By such devices he managed to inspire faith

in his infallibility even in the face of defeat. He often encouraged his men to go into battle blindfolded, telling them that thus prepared they would be invincible and that no harm could befall any of the faithful so arrayed, and this accounts for the number of native bolomen found dead and blindfolded after engagements with the troops.

Another superstition indulged in is the so-called "anting-anting," which is no doubt responsible for much of the courage exhibited by these people in fighting. "Anting-anting" is the name applied to various cabalistic signs and figures, usually either sewed in red upon a handkerchief or shirt or printed rudely upon small circular bits of paper. There is the proper "anting-anting" for everything, according to the high priests of the Pulajanes, some protecting from disease and death, others from bullets, and still others from spears. Some of it, such as the paper variety, is often swallowed as a protection, and bullets which have been blessed are also sometimes swallowed.

I have examined a good many specimens of this "anting-anting," but have not been able to see any rhyme or reason to it, nor have I ever found any one who could decipher or translate it in any way. Like much other religious nonsense, the more mysterious it is, the better it works, and the less the people know about it, the better it goes. In Ablen's case, Fate willed that the "anting-anting" should slip up and an American bullet blinding him in one eye, he was captured and the insurrection of a year was brought to a close. I saw the old man, for he is well along in years, at the military hospital at Tacloban, shorn of his power and chained ignominiously to his bed, an object of curiosity to all. Like many other things which seem great at a distance and shrink into insignificance when near at hand, he seemed a small and contemptible—and to those who had not lost time, patience, friends and relatives during the campaign—perhaps even a pitiable object.

One of the mysteries to me is, why Americans coming to the islands invariably attempt to learn Spanish, and having once acquired a smattering, persist in using it with the native who perhaps is anxious to learn English. With the passing of Spanish power here, there passed also the need for the perpetuation of the Spanish language in the Philippines, and I believe that if we are to make much out of these possessions, English should everywhere be used. To tell the truth, although one hears a good deal of Spanish spoken, it is in the majority of cases anything but pure Castilian, and the initiated have dubbed the lingo "bamboo Spanish." It is a horrible mixture in which English, native dialect and bastard Spanish are conglomerated; no attempt at proper tenses or pronunciation being made. One of the absurdities I have witnessed is that of a gentleman who persisted in talking to his muchacho servant in very execrable Spanish, when the boy could understand English perfectly well and always by preference, used it.

Americans are used to thinking of the Philippines, when they do think of them at all, as being very hot, very dirty and very unhealthful, some even being so fatalistic that they believe a disease germ is waiting for them at the entrance to Manila Bay. During the last six months there has not been a case of cholera, plague or smallpox in the city of Manila and the death rate is but 29. When one considers that not so many years ago Manila was one of the "plague spots" of the earth, it seems as if we had cause for congratulation upon the success of American sanitation. There are two places in the Islands which could properly be called health resorts, one at Baguio in northern Luzon, and the other at Los Banos, just outside of Manila. Baguio is at an elevation of several thousand feet and is actually cold, the thermometer at one time during January of this year falling below freezing. There are good hotels there and the place can be reached by rail, the Manila Dagupan Railroad, the only one in the Islands. During the hot season this place has been very popular and has had a large number of visitors. The Army has taken advantage of it and now sends men there who are in need of rest and recuperation. Los Banos is used as a health resort on account of the hot springs. The waters have been piped and bathing pavilions established; Los Banos is a military station and rheumatics and venereal cases are sent there for treatment by the military authorities.

The commanding general of the Philippines Division has been so much impressed with the healthful situation of Camp John Hay, as the military station at Baguio is named, that it is said he is strongly in favor of making the tour of service of the American troops in the islands five years instead of two, as is now the case, his plan being to send officers and men, at the least sign of physical or mental breakdown, to the mountains for recuperation. So far as I know this plan has not been favorably received, for while many American soldiers wish to stay in the Islands and to re-enlist here, they do so, almost invariably, because they wish to get what is known as "double time" towards their retirement, service in the tropics being counted at double that of home service in computing the thirty years necessary for retirement. Five years in the Philippines, unless a man has interests here in the way of commercial or other enterprises, is too long and one drops too much out of the affairs of the world in that time. Then again it makes a difference where one is during his stay here; Manila is not the Philippines. I think one could be very contented in or around Manila for a number of years, but I know for a surety that two or three years in some of the southern islands is an eternity. It is a curious fact that a man's memory and his ability to do mental work as well as his power of initiative all steadily decline during his residence in the tropics. What the cause of this is I do not know; it may be that in allowing himself physical relaxation and limiting the amount of work he performs, which he *must* do, he also

fails to use his mind properly and the mind not being properly exercised, naturally fails. I have seen many instances of this loss of memory, one in a naval officer who had been over for two years on the Asiatic station, being very marked so that there were many embarrassing breaks in our conversation, due to his inability to remember some of the commonest terms and phrases. He was of a marked blonde type, and stated to me that two of his brother officers, also blondes, had suffered in much the same way, his supposition being that the tropical sunlight, as pointed out by Woodruff, is the underlying cause of the mental deterioration.

Irritability is another thing that worries many of us. One often finds, after a year or so in the tropics, that he is becoming very sharp-tempered, that little things annoy him and that his language is often not over-polite. In my own case I hope this is only temporary, since I am sure my friends would not know what to make of the change! At any rate those of us who are troubled with sharp tempers and sharper tongues hope that it is not a sign of increasing age, but is due rather to some mysterious influence wielded by Old Sol at the equator.

I recently witnessed a small sized epidemic of beri-beri. There was nothing unusual about it, but I am impressed, the more I see of this disease, with its peculiarities and vagaries. One of these cases was diagnosed as mumps by a physician who has seen not a little beri-beri, but it turned out that this was the prominent symptom of the disease. The parotids were both enormously swollen and could be picked up in the fingers, but curiously they were not very tender. The condition of the man suggested meningitis, so great was his stupor. He recovered in a week or so, but has since drifted into a condition of chronic beri-beri.

The Surgeon General of the Army has directed that in all cases of this disease occurring among soldiers the feces be examined for the eggs of *ankylostoma duodenalis*, it being suspected that hookworms had something to do with the etiology. In a great many cases this has been done, but in most of these, so far as I know, if hookworms were found their number was small, so that it seems more likely a coincidence than a cause, since we know that hookworms produce pathological results in direct ratio to the actual number present. However, the fact that one investigator has shown that in beri-beri there sometimes occurs a specific duodenitis, would tend to make the hookworm suggestion worth following. Another case of the same disease baffled several of us for two or three weeks. The victim was rather an old man and he had undoubted beri-beri of the wet variety. A peculiar thing in his case was the amount of abdominal swelling and dropsy. This was so marked that he was tapped several times, but each time he rapidly filled again. It seemed an unusual case, although fairly well marked dropsy is not uncommon in beri-beri, especially if the heart has failed. However, just before he died I discovered a very marked *vino* history in the old man; he had

been a hard boozier for years. So two days before he died we resolved the case down to chronic alcoholic neuritis and alcoholic cirrhosis of the liver, a simple or "garden" diagnosis and nothing to do with tropical disease. That is often the case and one is apt to forget when he is in the tropics that not every disease is a tropical one.

Manila, July 15th.

PARIS LETTER.

[FROM OUR OWN CORRESPONDENT.]

CARDIAC HYPERTROPHY AND EXPERIMENTAL ALCOHOLISM.

Can a hypertrophy of the left ventricle which is generally linked with mechanical obstacles of the general circulation (valvular, arterial and renal lesions), ever occur as the result of other etiological factors? Human pathology furnishes us some examples, but recent laboratory experiments have succeeded in demonstrating its possibilities beyond a doubt. At a meeting of the Societe de Biologie held on July 20th, M. Aubertin communicated the results of his experiments on certain animals that he had subjected to a slow absinthe-intoxication. A rabbit which had died after six months' treatment with absinthe showed an enormous hypertrophy of the left ventricle, in spite of the absence of the usual obstacles which are generally held responsible for the presence of the disease.

OCULAR REACTION TO TUBERCULIN AS A MEANS OF DIAGNOSIS IN A TUBERCULAR SUBJECT.

M. A. Calmette of the Institute Pasteur at Lille, recently stated at the Academie des Sciences, that when a drop of an aqueous solution of tuberculin (1 to 100) is instilled in the eye of a subject affected with tuberculosis, the palpebral conjunctiva and the caruncle become congested in from three to five hours after the instillation; the color of the conjunctiva being a deep red. At the same time, increased lachrymation is established and accompanying this there is a sero-fibrinous secretion which gathers in the inferior conjunctival cul-de-sac or in the inner angle of the eye. At the end of twenty to forty hours all traces of the congestion disappear. In the non-tubercular, this reaction is absent. Many eminent clinicians have verified these facts, the value of which is most important from a practical point of view. This simple and absolutely innocuous process, then, is the means of determining at the expiration of twenty-four hours the presence or absence of an active tubercular focus.

OCULAR SIGNS IN THE DIAGNOSIS OF TYPHOID FEVER.

Encouraged by the labors in behalf of the serum diagnosis in tuberculosis, M. Chantemesse has prepared a powder of the toxin of typhoid fever by precipitating, with the help of absolute alcohol, a certain quan-

ity of liquid toxin. One drop of an aqueous solution of this powder ($\frac{1}{4}$ millegram to 10 drops of water) is dropped on the inner side of the lid. In case the subject is free from typhoid fever a slight redness with some lachrymation occurs after some hours, to disappear in the space of five or six hours. On the other hand, when typhoid fever is present the reaction is much more intense; a thick sero-fibrinous exudate appearing, which may last until the following day; sometimes not ceasing until two or three days after the inoculation. As yet, M. Chantemesse cannot positively state how soon the ocular reaction takes place, but it is hoped by this method to achieve that which is most important—an early diagnosis of typhoid fever.

DIGITAL IMPRESSIONS AS A MEANS OF IDENTIFICATION.

At a meeting of the Academie des Sciences held on July 1st, M. Dastre read a paper which ought to be of interest to criminal anthropology and the police departments in all civilized countries, on account of his insisting on the establishment of an international chart illustrating digital impressions, by which the apprehension of all criminals could be more easily accomplished. Here are his conclusions: Digital impressions in the same individuals are unchangeable from earliest youth until advanced old age; the impression of one finger differs from another just as the fingers of one individual differ diametrically from those of another; therefore, the impressions of all fingers are necessary so that identity may be established beyond a doubt. In conclusion he states that the value of digital impressions is at least equal to that of all the other physical characteristics.

The study of digital impressions or dactyloscopy suffices to establish the best method for identification. The system has this advantage, it is applicable to all individuals, no matter what their age. Moreover, it costs less than any other for the reason that a large personnel is not required.

MEDICAL RESPONSIBILITY.

Le Tribunal Correctionnel de Paris recently handed down its opinion in a case which has interested all French physicians on account of the question involved, viz: Is a physician responsible for eventual complications when they arise through no fault of his own? A physician had cured a case of acute appendicitis by ice applications, but a superficial eschar appeared, presumably the result of the treatment. The patient, though cured, entered suit for damages amounting to 50,000 francs. The court dismissed the case and assessed the costs against the plaintiff. The court held that inattention to the rules of prudence, habitual negligence and ignorance, should make the physician responsible in every case, but since the slight inconvenience was the result of an approved method of treatment belonging to the province of medical science, and was not the outcome of any sort of negligence on the part of the physician, it could not hold him responsible.

August 12th.

OBITER DICTA FROM FOREIGN JOURNALS.

IN DEFENSE OF THE ADVOCATES OF SLEEP.

"Arise early and work! Let us be active," recently exclaimed an enthusiastic professor at one of the French universities.

This apostrophe to energy impels Leon Mac-Auliffe, in *La Clinique de Paris*, to come to the defense of the benefits accruing from sleep. And though he does not approve of any one today following in the footsteps of Gargantua, who prior to the reform instituted by his instructor, Ponocrates, asserted "that a day could not begin before nine o'clock," thus following the axiom laid down by King David that it was detrimental to one's health to arise before daybreak, he thinks the question merits more serious thought than is given it by our modern Ponocrateses, the professors at the universities.

Granted that what educators call moral force, mental vigor or energy originates in the general equilibrium of the organism, particularly in the functional activity of the brain, one can readily understand the difficulty of infusing this quality into those whose equilibrium is below par. But for pedagogues to state that this energy or force is the rightful appanage of the diligent and can never be inculcated into the indifferent, is decidedly false reasoning.

Physiologists and experience have taught us that good scholars are invariably healthy and exhibit evolutionary processes that go on without let or hindrance; while backward scholars are hampered by inherited physical disabilities and show an evolution checkered, to say the least. This being the case, reason should prompt us to suggest an outdoor life for a certain class of students; physical exercise, the stimulus of vitality, for another; so that by easy stages digestion of intellectual work could be established without the usual, irksome scientific methods. If this were done, ere long qualities heretofore hidden would become evident and a genuine intelligence would manifest itself. The counsels, the examples, the exhortations, the reprimands, all these moral inducements which medical philosophers à la Dubois of Berne, call mental representations (*representations mentales*) are hardly capable of stimulating even for a time the brains of the backward. Equilibrium that stands in relation to the functions of the body is the true factor of energy. In other words, health and that alone, is the soil from which all energy springs.

At the first Congress of School Hygiene, M. Lucien Marcheix made the following statement: "Children between the ages of six and nine years ought to have eleven hours' sleep; from nine to twelve, ten hours; from twelve to fifteen, nine and one-half hours; from fifteen to eighteen, nine

hours." Any rule such as this is imperfect for the reason that, in a physiological sense, the regulations it embraces are not applicable to those individuals whose manner of living and thinking show a great diversity. In support of this contention it is but necessary to quote the sane words of Professor Forel (*The Mind and the Nervous System—L'Âme et le Système Nerveux*, Paris, Steinheil, 1906): "The importance of sleep to induce cerebral repose has for a long time been greatly misunderstood. The greater the mental work, the greater the need for sleep. Certain old men who live regularly and exercise their mental functions sparingly can attend to their business affairs after five or six hours sleep, sometimes after less, because following their greatest activity there are short periods of repose which are beneficial to both mind and body. On the other hand, the man who is burdened with years and whose work demands a mental activity similar to what it was in his prime, does his nervous system a great harm if his sleep is not prolonged so that his normal equilibrium can be re-established." This succinct statement sums up all one could say on the subject.

Is there today in the length and breadth of France a university that has felt the need of a special dormitory for those students who require additional sleep at a time when the severity of examinations weakens and jades them, even though the Medical Inspector were to suggest it? A Medical Inspector advises in the case of an outbreak of an epidemic or when a student is afflicted with a grave disease, but as yet due, no doubt, to an unwillingness on the part of the pedagogues to recognize the truth, he has not been able to make clear to them, that education to accomplish something, must not ignore physiological characteristics. When this is realized, the "sleepers" will come in for some share of attention and be the object of considerable solicitude on the part of hygienists.

If all Medical Inspectors would memorize the words of Professor Forel and put them to practical use at the time examinations bring on augmented cerebral tension, demanding prolonged sleep, we would no longer hear the stereotyped advice dealt out to students—*Be active no matter what your fatigue may be. The rule is, all students must arise at the same hour.*

HAECKEL AND EVOLUTION.

Professor Ernest Haeckel's three lectures on Religion and Evolution, recently delivered at the Singakademie at Berlin, have been published in book form. These lectures give us pause for two reasons; first, they are equal if not superior, to anything heretofore written on the subject of evolution and, secondly, according to the author himself, they are his last public utterances. A very good idea of the rich material each lecture contains may be gathered from a synopsis of the first discourse: Haeckel draws a

parallel between the theory of descent and the dogma of the Church; he shows the great characteristic of the intellectual life of the nineteenth century—the fierce combat against the theory of evolution. The Book of Genesis was continually set in opposition to the philosophical idea of evolution, and not until C. F. Wolff shattered the theory of preformation by his studies of the egg of the chicken, was embryology founded. Phylogeny was less advanced; Linnaeus still spoke of the miracle of creation, but Lamarck, in 1809, explained heredity. Darwin (1859) continued Lamarck's theories and added thereto natural selection. Huxley developed Darwinism and then Haeckel himself continued on the same lines after 1874. The Church opposed Darwinism; in Berlin scientific circles the obligatory idealism of Hegel was professed, even though Darwin's theories illuminated some minds in 1859. The protests of the Church affected very greatly the savants, even Virchow being undecided. After years, evolution triumphed in all branches of biology and finally forced the Church to adapt itself in part to its theories. The Jesuit priest, Wassman (1904), in a balderdash rigmarole, attempted to prove that although Darwinism was not dead, the theory of a supernatural creation was firmly established, and that St. Augustine and St. Thomas Aquinas were the real founders of evolution. Thus the Church adopted Darwinism, though mutilating its cherished theories by advocating a firm belief in the miracle of the earliest inception of life.

BOOK REVIEWS.

MATERIA MEDICA AND PHARMACY. By Reynolds Webb Wilcox, M. A., M. D., LL. D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital; Consulting Physician to the Nassau Hospital; Visiting Physician to St. Mark's Hospital; Ex-President of the American Therapeutic Society; Vice-Chairman of the Revision Committee of the United States Pharmacopeia, etc. Seventh Edition. Revised. P. Blakiston's Son & Company, 1012 Walnut street, Philadelphia, Publishers.

This is the seventh revised edition of *Materia Medica and Pharmacy* issued by the above well known authority. It is merely a repetition of the previous well known editions without many important modifications.

DISEASES OF THE INTESTINES AND PERITONEUM. Prof. Dr. Hermann Nothnagel, Late Professor of Special Pathology and Therapy, University of Vienna, Edited, with additions by H. D. Rolleston, M. A., M. D., F. R. C. P., Physician to St. George's Hospital, and to the Victoria Hospital for Children, London; Sometime Fellow of St. John's College, Cambridge. Second Edition, Thoroughly Revised. Authorized Translation from the German. Under the Editorial Supervision of Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania. W. B. Saunders Co., Philadelphia and London, Publishers.

This new edition of Nothnagel's *Encyclopedia of Practical Medicine* (American Edition) is a revised edition of the same one issued in 1904. The absolute worth of this volume needs no special recommendation further than that of being a part of this remarkable series in medicine, a lasting memorial of the distinguished author whose death we have unfortunately to deplore. The additions by the author make it one of the most thorough and exhaustive texts with the appended literature on the diseases of the intestines and peritoneum available at the present time.

SCHLEIF'S MATERIA MEDICA AND THERAPEUTICS. A Pocket Text-Book of *Materia Medica, Therapeutics, Prescription Writing, Medical Latin and Medical Pharmacy.* By William Schleif, Ph. G., M. D., University of Pennsylvania, Philadelphia. New (3d) edition, 12mo. 470 pages. Cloth, \$2.50, *net*. Lea Brothers & Co., Philadelphia and New York, 1907.

This volume is the third edition by the author in a part of this series of popular text books of the above publishers. It covers the entire *Materia Medica* in practical use at the present time. The newer drugs of the pharmacopeia, food stuffs, and many of the important unofficial drugs are given their proper consideration. It affords a handy reference, especially for the busy practitioner.

HARE'S THERAPEUTICS. A Text-Book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D., B.Sc., Professor of Therapeutics and *Materia Medica* in the Jefferson Medical College of Philadelphia, Physician to the Jefferson Hospital, etc. New (12th) edition, enlarged and thoroughly revised to accord with the eighth decennial revision of the U. S. Pharmacopeia. In one octave volume of 939 pages, with 114 engravings and four colored plates. Cloth, \$4.00, *net*; leather, \$5.00, *net*; half morocco, \$5.50, *net*. Lea Brothers & Co., Philadelphia and New York, 1907.

This volume is the twelfth edition of *Practical Therapeutics* issued by this well known authority. It is thoroughly up-to-date, and far advanced beyond the ordinary books on therapy extant at the present time. The general plan and system of previous editions has been carried out with their revisions as borne out by the established therapeutics of today. As a complete book on therapy, both from the viewpoint of experimental and clinical therapy, this volume must receive highest commendation.

ATLAS AND EPITOME OF DENTISTRY. By Prof. Gustav Preiswerk, of Basil. Edited, with additions, by George W. Warren, M. D., Professor of Operative Dentistry at the Pennsylvania College of Dental Surgery. With 44 lithographic plates in colors, 152 text-illustrations, and 350 pages of text. Philadelphia and London. W. B. Saunders Company, 1906. Cloth \$3.50 net.

This work is a most attractive, scientifically accurate presentation of the modern trend of dental thought in Germany. The text is clear, and well translated. The embryology, anatomy, and pathology of the teeth are exhaustively treated and excellently portray many normal and abnormal conditions. The treatment or practical dentistry is not so thoroughly considered.

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